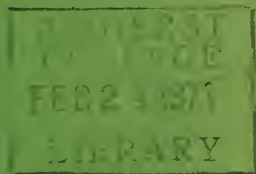




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MIGRANT AND SEASONAL FARMWORKER POWERLESSNESS



HEARINGS BEFORE THE SUBCOMMITTEE ON MIGRATORY LABOR OF THE COMMITTEE ON LABOR AND PUBLIC WELFARE UNITED STATES SENATE NINETY-FIRST CONGRESS FIRST AND SECOND SESSIONS ON MANPOWER AND ECONOMIC PROBLEMS

APRIL 14, 1970

PART 7-A

Printed for the use of the Committee on Labor and Public Welfare



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FORMAT OF HEARINGS ON MIGRANT AND SEASONAL FARMWORKER POWERLESSNESS

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<i>Subject matter</i>	<i>Hearing dates</i>
Part 1: Who Are the Migrants?-----	June 9 and 10, 1969
Part 2: The Migrant Subculture-----	July 28, 1969
Part 3-A: Efforts To Organize-----	July 15, 1969
Part 3-B: Efforts To Organize-----	July 16 and 17, 1969
Part 4-A: Farmworker Legal Problems-----	Aug. 7, 1969
Part 4-B: Farmworker Legal Problems-----	Aug. 8, 1969
Part 5-A: Border Commuter Labor Problem-----	May 21, 1969
Part 5-B: Border Commuter Labor Problem-----	May 22, 1969
Part 6-A: Pesticides and the Farmworker-----	Aug. 1, 1969
Part 6-B: Pesticides and the Farmworker-----	Sept. 29, 1969
Part 6-C: Pesticides and the Farmworker-----	Sept. 30, 1969
Part 7-A: Manpower and Economic Problems-----	April 14, 1970
Part 7-B: Manpower and Economic Problems-----	April 15, 1970
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MIGRANT AND SEASONAL FARMWORKER POWERLESSNESS

Manpower and Economic Problems

TUESDAY, APRIL 14, 1970

U.S. SENATE,
SUBCOMMITTEE ON MIGRATORY LABOR,
OF THE COMMITTEE ON LABOR AND PUBLIC WELFARE,
Washington, D.C.

The subcommittee met at 9:30 a.m., pursuant to call, in room 4232, New Senate Office Building, Senator Walter Mondale (chairman of the subcommittee) presiding.

Present: Senators Mondale (presiding), Murphy and Schweiker.

Committee staff members present: Boren Chertkov, majority counsel; Dr. Mark Erenburg, economic consultant; and Eugene Mittelman, minority counsel.

Senator MONDALE. The Subcommittee on Migratory Labor will come to order.

This morning the Migratory Labor Subcommittee begins the seventh in a series of hearings on migrant and seasonal farmworker problems in the United States.

When we began our hearings last spring, we chose powerlessness as the underlying theme. We set out to examine the degree to which, and the ways in which, migrant and seasonal farmworkers were deprived of political power, deprived of economic power, deprived of cultural identity or pride, and deprived of the rights and privileges that most Americans take for granted.

We heard from migrants themselves just what it was like to be a migrant farmworker—telling of their own lives, their own problems in their own way.

We heard from psychologists and sociologists about what really happens to the men, women, and children who are confronted with the severe economic and social stress of migratory farmwork.

We learned of the severe economic depression created and sustained by the surplus of desperately poor people, many commuting from Mexico, who are forced to accept substandard living and working conditions along the United States-Mexico border.

We learned of the obstacles faced by union and community organizations that are attempting by their self-help efforts to improve their own situation.

We investigated the legal problems and barriers faced by migrant and seasonal farmworkers; and, in a most revealing series of hearings, we learned of farmworkers' exposure to the unscrupulous use of chemical pesticides.

We learned that the situation has changed very little since the days of John Steinbeck's *Grapes of Wrath*. (I shall insert for the record a passage from that book which reflects precisely the situation that exists today in too many areas of the Nation.)

The American socio-economic system, with its goals of opportunity, achievement, and the promise of a better life, has failed the migrant farmworker. He is, in part, excluded from this system and denied its goals.

Migrants have little or no income; their ability to earn is impaired; unemployment is high; and their stream of earnings is sporadic and uncertain. Skill, ability, education, and motivational levels are low; the demand for their services in agriculture is diminishing; and benefits of Government programs are either limited or denied.

Our past hearings have given us a vivid description of the migrant situation.

The purpose of our hearings today and tomorrow is to figure out why this situation continues. We want to find out what, in detail, is the extent and nature of farmworker economic powerlessness, and what are its causes. What is this Nation's overall economic or manpower policy to affect change in the economic condition of migrants?

More specifically, we want to find out:

1. What is the effect of the open border policy between Mexico and the United States (its dimensions already set forth in the subcommittee's hearings of May 21 and 22, 1969), upon such problems as: (a) the redundancy of the labor supply; (b) the depressed living and working conditions in border areas; (c) the need for American residents along the border to migrate north in search of better paying jobs; and (d) the entire national farm labor and rural economy?

2. To what extent, if any, does a lack of adequate labor market information limit farmworkers' opportunities to find jobs and to increase earnings? Are Federal and State Governments properly administering present programs, and assuming future responsibilities for improving dissemination of information? To what extent, if any, do Federal and State Government programs encourage an oversupply of labor which creates low earnings and unemployment—economic powerlessness?

3. How does the lack of better job opportunities both within and without the agriculture industry, relate to the ability or inability of farmworkers to get more secure and more higher paying jobs? What has been done, and what is proposed by both the public and private sector to improve job opportunities?

4. Are worker attitudes a factor that perpetuates powerlessness?

5. What will be the future demand for farmwork? Until we can more accurately determine the changing levels of demands and requirements for employees, particularly in the face of increasing mechanization, will the migrants continue to be faced with unexpected

and unannounced unemployment? In view of the substantial Government resources that are devoted to feasibility studies of mechanization, is the Government adequately funding studies of the impact of mechanization on the economic wellbeing of the farmworker?

6. To what extent do employer attitudes contribute to continued powerlessness? What methods have been developed to more directly define and change negative attitudes and perceptions about migratory labor? Why do most farmers and growers continue to oppose extension of basic social and worker benefit legislation to farmworkers? Why are practices of discrimination based on age, sex, race, and migrancy still evident in employment policies?

7. To what extent is economic powerlessness a factor of poor worker ability, or low skill levels, and inadequate educational levels?

8. Farmworkers have traditionally been either excluded, or at best only minimally included, within every major social and worker benefit program enacted into law. Additionally, farmworkers are often unfamiliar with program benefits, or basic civil rights, such as voting, that might be available. To what extent is this exclusion from the American mainstream a cause or a result of continued economic powerlessness?

9. The Government projects a steadily diminishing yearly need for migrant farmworkers. What policies have been developed, and what efforts to implement those policies has the Government made in the area of rural to urban migration, and relocation and resettlement programs? Are additional efforts necessary?

10. To what extent is the exclusion from legislation protecting the right to organize and encouraging collective bargaining a cause of continued economic powerlessness?

11. What is the relationship to the institution of migrancy, and those factors which cause it, to overall poverty in this country?

I also will submit for insertion in the record at this point in my remarks, a subcommittee staff paper entitled "Migrant Manpower—A Study in Economic Powerlessness" which discusses the purpose, scope, and intentions of our hearings in greater detail.

We have a very distinguished panel of witnesses this morning, and we look forward to hearing your views.

(The material referred to above follows:)

MIGRANT MANPOWER—A STUDY IN ECONOMIC POWERLESSNESS

(NOTE: The Senate Subcommittee on Migratory Labor, chaired by Senator Walter F. Mondale, will soon be continuing its hearings on Migrant and Seasonal Farmworker Powerlessness. To date, the Subcommittee has endeavored to obtain a broad introduction to various problem areas by hearing farmworkers themselves tell of their own lives, their own problems. We have heard testimony from both community and union organizers on the obstacles to their self-help efforts to improve their own situation. We have explored what really happens to the men, women and children that are confronted with the severe economic and social stress of migratory farmwork related to us in our earlier hearings. We have also heard testimony on the border commuter labor problem and the severe economic depression created by the surplus of desperately poor people forced to accept substandard living and working conditions along our borders with Mexico. The Subcommittee has also studied the effects of pesticides on

farmworkers, and examined the legal problems and barriers faced by migrant and seasonal farmworkers.)

This staff paper is to serve as a basic document outlining the purposes, scope and intentions of our next hearing entitled "Migrant Manpower—a Study in Economic Powerlessness.")

1. INTRODUCTION

The American economic system is historically based on consumer sovereignty—we recognize the right of each individual to spend money and make purchases which best satisfy personal preferences. Americans generally have a voice in the determination of what is produced to the extent that they are willing to spend their income. This system works reasonably well for everyone except the poor. It has failed the migrant farmworker; in fact, the migrant is excluded from the mainstream of our economic system. Because their income is low, they have only limited participation. Their power to affect the system is severely restricted.

Migrants have little or no income; their ability to earn is impaired; and their stream of earnings is sporadic and uncertain. More important, however, they lack or are denied the ability to control their income. Unemployment and underemployment is high. Their ability to increase their economic power is restricted. Information about jobs is limited and faulty. Skill and ability, educational and motivational levels are low. The demand for their services in agriculture is diminishing. Benefits of government programs designed to raise income and make it more certain now and in the future are limited or denied. Instead of controlling the economic system, the system controls them.

The Subcommittee will probe the causes of this tenuous economic position of migratory farmworkers. We hope to carefully assess in detail the extent and nature of their economic powerlessness. Only when we know the specific causes and the scope of the economic powerlessness of migratory farmworkers can we seriously attempt to suggest remedies for the situation. Only with more complete knowledge and understanding can we hope to guarantee to migratory farmworkers the individual sovereignty in our economy to which they are entitled.

II. WHO ARE THE ECONOMICALLY POWERLESS AND WHO MIGHT BE IN THE FUTURE?

For years, interest has been centered on the labor market problems of migratory workers with only peripheral attention paid to a comprehensive analysis of who are migrant workers, and what constitutes migrancy. The Subcommittee will investigate definitions, rationale, and ramifications of migrant work, in preparation for an exhaustive analysis of migrant manpower.

Under various definitions, the Subcommittee is interested in the number of migrant workers, and information with which to accurately describe this class of worker. We are interested in demographic data such as age, sex, marital status, educational level, skill, and ability levels. Data on family size, children's school status, other household workers (and their demographic characteristics), parents' occupation, and place of residence are also important. We realize some of these data are already available but in various forms and various places.

The Subcommittee seeks to compile a working report for itself and others dealing with migratory labor, including data not only representative of the present migratory working force, but also indicative of past and possible future trends in the size and demographic composition of this group. At the same time we will investigate the accuracy of this data, the methods of collection and compilation. We will also isolate those areas where no data exists, and question this dearth of information.

III. ECONOMIC POWERLESSNESS SPECIFICALLY DEFINED

Low earnings with sporadic and meager employment experience document the economic powerlessness of migratory farmworkers. But how low are the earnings, how sporadic and meager is the employment experience? Again, some data are available, but where are they, how accurate are they, and why haven't more data been collected?

The Subcommittee will collect and appraise specific information on the economic powerlessness of migratory farm labor, and identify data necessary but not available to effectively analyze the migratory farm labor market. We seek

to identify the level and variability of earnings for heads of migrant families and other household workers as related to such variables as nature and location of agricultural and nonagricultural jobs, value of perquisites, other sources of income, type and amount of withholding, and type of payment (hourly, piece-rate, or salary).

The Subcommittee also seeks to identify the employment and unemployment patterns of migratory farmworkers. Data on the number, type, duration, location, and chronology of farm and nonfarm jobs, and the hours of work, variability of hours, and availability of employment for other household members for each such job are necessary. Specific unemployment, underemployment and subemployment data are also in order for a labor market analysis: the frequency, duration, locations as well as the degree of part-time work available and sources of additional income for these periods of joblessness. Comparative data on characteristics of employed and unemployed workers would contribute to the analysis as would comparative earnings and employment data for migratory and nonmigratory workers in agriculture. Of course, a comprehensive picture of past, and projected future employment and earnings of migratory farmworkers must also be constructed.

IV. THE CAUSES OF ECONOMIC POWERLESSNESS

An analysis of migrant economic powerlessness that consists only of a theoretical overview of the migrant's plight in relation to our economy generally (I above), a collection of relevant demographic data and specification of areas where data is sorely needed (II above), and a definition of the so readily apparent manifestations of economic powerlessness (III above) is necessarily incomplete without an effort to define what the *causes* of the economic powerlessness might be.

If anything is indicative of migrant economic powerlessness, it is that no serious consideration has been given to a sophisticated analysis of the causes of continued powerlessness. This explains, at least in part, why this Nation appears to have no overall economic or manpower policy to effect change in the economic condition of migrants.

Only by attempting to pinpoint and define the causes can we work toward solution of the problem. Perhaps one benefit of our effort will be to stimulate public and private resources to assign priorities to one or more causes, in order that this Nation can proclaim and implement a commitment to incorporating migrants into the mainstream of the American economic life.

While any efforts to assign one or more reasons for powerlessness may be speculative, particularly in view of the shortcomings of available demographic, earnings, and employment data, several explanations have been offered and are worthy of further investigation:

1. What is the effect of the *open border policy* between Mexico and the United States, (its dimensions already set forth in the Subcommittee's hearings of May 21 and 22, 1969), upon such problems as : a) the redundancy of the labor supply; b) the depressed living and working conditions in border areas; c) the need for American residents along the border to migrate north in search of better paying jobs; and d) the entire National farm labor and rural economy?

2. To what extent, if any, does a *lack of adequate labor market information* limit farmworkers' opportunities to find jobs and to increase earnings? Are Federal and state governments properly administering present programs, and assuming future responsibilities for improving dissemination of information? To what extent, if any, do Federal and state government programs encourage an oversupply of labor which creates low earnings and unemployment—economic powerlessness?

3. How does the *lack of better job opportunities* both within and without the agriculture industry, relate to the ability or inability of farmworkers to get more secure and more higher paying jobs? What has been done, and what is proposed by both the public and private sector to improve job opportunities?

4. Are *worker attitudes* a factor that perpetuates powerlessness?

5. What will be the *future demand for farmwork*? Until we can more accurately determine the changing levels of demands and requirements for employees, particularly in the face of increasing *mechanization*, will the migrants

continue to be faced with unexpected and unannounced unemployment? In view of the substantial government resources that are devoted to feasibility studies of mechanization, is the government adequately funding studies of the impact of mechanization on the economic well-being of the farmworker?

6. To what extent do *employer attitudes* contribute to continued powerlessness? What methods have been developed to more directly define and change negative attitudes and perceptions about migratory labor? Why do most farmers and growers continue to oppose extension of basic social and worker benefit legislation to farmworkers? Why are practices of discrimination based on age, sex, race, and migrancy still evident in employment policies?

7. To what extent is economic powerlessness a factor of *poor worker ability*, or low skill levels, and inadequate *educational levels*?

8. Farmworkers have traditionally been either excluded, or at best only minimally included, within every major social and worker benefit program enacted into law. Additionally, farmworkers are often unfamiliar with program benefits, or basic civil rights, such as voting, that might be available. To what extent is this exclusion from the American mainstream a cause or a result of continued economic powerlessness?

9. The government projects a steadily diminishing yearly need for migrant farmworkers. What policies have been developed, and what efforts to implement those policies has the government made in the area of rural to urban migration, and *relocation* and *resettlement* programs? Are additional efforts necessary?

10. To what extent is the exclusion from legislation protecting the right to organize and encouraging collective bargaining a cause of continued economic powerlessness?

11. What is the relationship to the institution of migrancy, and those factors which cause it, to overall poverty in this country?

EXCERPT FROM "THE GRAPES OF WRATH" BY JOHN STEINBECK (VIKING PRESS, NEW YORK)

Pa said, "We seen them han'bills. I got one right here." He took out his purse and from it took a folded orange handbill. In black type it said, "Pea Pickers Wanted in California. Good Wages All Season. 800 Pickers Wanted." (a stranger commented) . . . "You'll be a-campin' by a ditch, you an' fifty other famblies. An' he'll look in your tent an' see if you got anything lef' to eat. An' if you got nothin', he says, 'Wanna job?' An' you'll say, 'I sure do, mister. I'll sure thank you for a chance to do some work.' An' he'll say, 'I can use you.' An' you'll say, 'When do I start?' An' he'll tell you where to go, an' what time, an' then he'll go on. Maybe he needs two hunderd men, so he talks to five hunderd, an' they tell other folks, an' when you get to the place, they's a thousan' men. This here fella says, 'I'm payin' twenty cents an hour.' An' maybe half a the men walk off. But they's still five hundred that's so goddamn hungry they'll work for nothin' but biscuits . . . The more fellas he can get, an' the hungrier, less he's gonna pay. An' he'll get a fella with kids if he can . . .

Senator MONDALE. Our first witness this morning is Mr. Donald Paarlberg, Director of Agricultural Economics of the Department of Agriculture, Washington, D.C. Mr. Jose Angel Guterrez was scheduled to testify this morning, but he was just elected to the school board in Crystal City, Tex., and had to cancel his travel plans.

I will ask the staff to include in the record of these hearings the questions submitted by this subcommittee to the Agriculture and Labor Departments, and the responses received from each agency. The questions and the responses involve some new data, new material, and new insights into the area of farmworker economics and manpower. I think it is important to include these materials even though they are voluminous.

(The material referred to appears at the close of today's hearings.)

Senator MONDALE. Mr. Paarlberg, we are pleased to have you here this morning and wish to express our appreciation to the Department for responding to our lengthy questionnaire.

You may proceed as you wish.

STATEMENT OF DONALD PAARLBERG, DIRECTOR OF AGRICULTURAL ECONOMICS, DEPARTMENT OF AGRICULTURE; ACCOMPANIED BY ROBERT C. McELROY, LEADER, MANPOWER GROUP, DEPARTMENT OF AGRICULTURE; AND WILLIAM MOTES, DIRECTOR, ECONOMIC DEVELOPMENT DIVISION, DEPARTMENT OF AGRICULTURE

MR. PAARLBERG. I have with me two men from the Department of Agriculture, Mr. William Motes on my right and Robert McElroy on my left, both of whom are from Economic Research Service in the Department. They were largely responsible for answering the questions, the listed questions that were transmitted to the Department.

You have received the statement as you have said which is a lengthy one, some 66 pages and in addition you have received a file of published material related to migratory farm labor. The story as it emerges in our report and in this published material reveals certain major features and certain trends which I might briefly summarize.

First of all, a migratory farm labor force numbering about a quarter of a million people, steadily decreasing in number as agriculture becomes mechanized.

Sharply diminished numbers of foreign nationals, the consequence of the termination of the bracero program in December of 1964.

The gradual absorption of former migrants into the nonfarm working force.

The gradual extension to migrant farmworkers of social services and benefits enjoyed by other vocational groups.

Relatively low returns per hour and per year, though these returns have been increasing both absolutely and as compared with other sectors of the society.

I would like to comment briefly on the manpower effects of mechanization. Skill requirements of farm wagedworkers have been and will continue to increase with farm adoption of mechanization and other technology. At the same time mechanization reduces the overall use of labor, it creates a demand for a lesser number but higher skilled persons to operate the machines.

It intensifies peak seasonal labor demand, especially in migrant employing crops and areas. As mechanization of a particular crop occurs, employment is reduced in that crop, causing a gap in the migrant's itinerary. For migrants it becomes less rewarding to go to areas where the crop is grown. Their already meager livelihood is in further jeopardy.

Such a development is currently taking place with the adoption of a mechanical sugar beet blocker and thinner. Growers of other crops

worked by migrant labor in such areas, then, will have even fewer workers available during times of peak labor needs. As this pattern becomes more frequent, growers will need to further mechanize, make special recruiting efforts, and provide additional work incentives, develop a local labor force, or shift to less labor-intensive crops.

Reductions in requirements for agricultural labor reduce the overall income of many migrants. But they do not reduce the intensity of the demand for farm labor of those farmers who continue to depend on seasonal labor for their operations. In many significant areas this demand is far greater than can be supplied by casual labor, but it is too short in duration to employ workers year round.

The crux of the problem is the fact that technology and adjustments in agricultural production are reducing the jobs available for migrants in uneven patterns. The result is uncertainty facing farmers who need labor and workers who need jobs—an intolerable situation from both points of view.

We must find a better method than we have at present to match workers with jobs. The alternative is to stand by while workers are displaced and while crops spoil for want of workers, perhaps both situations happening at the same time.

The plight of the migrant workers and of the small farmers are indeed sad chapters in the story of the advance of technology in this Nation. Neither of these groups has enjoyed benefits in any way commensurate with the contributions they have made. If we ignore their needs, we will simply be asking these people to tighten their belts or find another job.

We believe that sometime in the next 5 years much of the hand labor now used in tobacco production will be replaced by machines. This is but one example. There will undoubtedly be others.

What should we do about this problem—the problem highlighted in your staff paper “Migrant Manpower—A Study in Economic Powerlessness”—which was focused on farm labor, but which I would broaden to include the small farmer as well? I have no easy answers.

A nationwide family assistance program will help, as will specific programs of food, housing, training, and other assistance. Better information on job and worker availability will help. So will better and more research on the characteristics, the skills and needs and wants of the workers and their present and potential employers.

I would hope that a concentrated effort among State and Federal agencies in behalf of farmworkers can be mounted to detect long and short run changes in the supply and demand for farm labor in an organized way. I am thinking of a kind of early warning system that would alert farmers and workers to trouble spots and allow them to plan accordingly. It would also alert all concerned State and Federal agencies so that tailored packages of programs could be focused on trouble spots.

I have asked researchers in USDA to make some short run projections on the supply and demand for migratory farm labor.

For example, we now estimate that about 12–14,000 fewer migrants will be employed in sugar beets this year. Similar projections for fruit

and vegetable crops will be made available by about May 1. These projections will be rough, more so than we would like, but I believe they will be useful.

The Secretary has suggested that the Rural Affairs Council consider what package of programs would be most appropriate in areas where redundant labor supplies might be expected. This suggestion is under active consideration by the council staff.

I know these are small steps relative to the intensity of problems concerning large human needs. I have no illusions that we know how to solve these problems, or have the means to do so. I can say with confidence that the Secretary and this administration are sensitive to these problems and that we intend to face them directly to the best of our ability to do so.

This is a very broad subject. I may not have discussed those points of greatest interest to you. It may be better, therefore, for me to respond to your questions.

While I have responsibility for this area of work in the U.S. Department of Agriculture, I do not profess to be an expert. With me, as I said, are William Motes, Director of the Economic Development Division, Economic Research Service, and Robert McElroy, leader of the manpower group, Economic Development Division, Economic Research Service. Between the three of us we will attempt to deal with your questions.

Thank you.

Senator MONDALE. Thank you, Mr. Paarlberg, for your most useful statement.

One of the apprehensions I have about dealing with the difficult problems of migratory labor begins with the very question of the accuracy of the data upon which we must now rely.

In response to our questionnaire, in a booklet that you included as an exhibit, and that we will print in our record, you express the same concern by saying "that the present data does not permit adequate analysis of subgroups such as migrants." That also confirms my experience. We have tried with this subcommittee to publish statistics on migratory labor, and I think the staff has long felt that the materials underlying the data we deal with is very soft. One economist estimates those figures could well be off a third of the time. When you say 257,000 migrants in 1969 there is a good chance it might be 286,000 or 228,000, or a swing of nearly 60,000 people. Similar uncertainties exist as to the validity of all the data.

Would you please respond to that point?

Mr. PAARLBERG. We have made an estimate of the degree of reliability for the 257,000 migrants. On page 4 of my response to your questions is such an estimate.

We estimate that the true number is within 29,000 persons of the estimated number. The likelihood is about two out of three that the true number is within 29,000 of the 257,000.

Senator MONDALE. That means the chances that we know the approximate number of migrants are two out of three when we use the 257,000 figure, but that could be 29,000 up or 29,000 down, so it is a swing of 58,000.

Mr. PAARLBERG. That is correct.

Senator MONDALE. 58,000 out of a quarter of a million! Could you tell me how this basic data is obtained? What is the process by which the Department develops it?

Mr. PAARLBERG. That is a technical question and I will ask one of my colleagues to respond.

Mr. McELROY. Those data are obtained by the Economic Research Service through the Census Bureau's current population survey. That survey uses a multistage probability sample design worked out to comprise 863 counties and independent cities. It includes all standard metropolitan statistical areas in the Nation and brings into consideration such information as the proportions of white and nonwhite employment and so forth. It is very detailed. This is not a USDA survey, but is a Census Bureau survey, the Census Bureau being the agency principally responsible for population statistics. We develop specific questions for inclusion in this survey in December to obtain information on the hired farm workforce.

Senator MONDALE. So the question is asked in December, is that correct?

Mr. McELROY. That is correct.

Senator MONDALE. Is it asked annually?

Mr. McELROY. Yes, sir.

Senator MONDALE. Is it a national census annually, or more like a spot check. How do we know we are counting all the migrants?

Mr. McELROY. It is a sample survey. It is subject to all the problems that all sample surveys are subject to, but we do not publish any data from it that we believe are unreliable.

Senator MONDALE. Is the Department of Agriculture involved in the development of the sample, and determination of its accuracy?

Mr. McELROY. No, the sample is the Bureau of Census sample. It has been in operation since the forties.

Senator MONDALE. Are you in a position to know how accurate or sophisticated the sample is as it relates to migrants?

Mr. McELROY. I have studied it in that respect, yes. I have a statistician in my group who has studied it. I have also been out on the enumeration. I go out on the survey each year and observe the enumeration. I am satisfied that the sample data are accurate and representative within the context of their presentation in the staff paper.

That is, because we are dealing with a sample there is some chance that it is not representative. That is the standard error. We estimate and publish standard errors, annually, in the back of the publication.

Senator MONDALE. Now, I assume that this annual census has many other different objectives in addition to migratory labor. It is not just conducted for that purpose?

Mr. McELROY. That is correct.

Senator MONDALE. Is the migratory labor question just one question, or are there several questions on migratory labor?

Mr. McELROY. The questions that USDA enters on this survey are developed by our Department, in other words, we obtain the information through a contractual arrangement with Census. It is a series that was started about 1945. Certain questions are repeated

annually. There are just a few questions that relate to migratory labor, which were begun in 1949.

Senator MONDALE. Would you submit the questions for the record, please?

Mr. McELROY. Yes, sir.

(The material referred to, subsequently supplied, may be found in the files of the subcommittee.)

Senator MONDALE. Would you regard December as the ideal time to be asking questions about migratory labor?

Mr. McELROY. Not ideal, but no single month is ideal. However, in the context in which we obtain and report these particular data, I know of no other way; because if we try to obtain information on the total number of persons who have performed such work during the course of the year, this means we have to wait until the year is essentially over before we can ask that question. So in that regard, I think the timing is important.

Senator MONDALE. I can see that from a calendar standpoint, but does not just the matter of recollection have a bearing on the accuracy of these statistics as they relate to migrancy?

Mr. McELROY. I am not sure I understand the question clearly. Was it, does memory bias play a part, possibly, in these statistics?

Senator MONDALE. Yes, sir.

Mr. McELROY. Yes, sir, we always worry about that.

Mr. MOTES. We agree that since this survey was not designed for the sole purpose of collecting information on migrant labor, it could yield more accurate migrant labor data if it were. It is far better than any other vehicle available. We choose it as the best of several alternatives.

It is cheaper. It is designed by experts. December is not the ideal month. There is not an ideal month. Some recall problems are probably inevitable. We think it is an advance over what we had.

Senator MONDALE. How long have you been relying on data from this census? How many years has that been a key source for your raw data?

Mr. MOTES. Since 1949.

Senator MONDALE. Twenty-one years. Is there no other effort to determine the number of migratory farmworkers, through surveys of farmers or other departmental offices, to cross-check or confirm the validity of these figures produced through the census?

Mr. MOTES. Not at the national level.

Senator MURPHY. Has there been any effort to coordinate this effort with State information?

Mr. MOTES. There is.

Mr. McELROY. The State Employment Service data are not related to this sample in a scientific way. The Federal-State complex is within the domain of the Labor Department. I think they may be able to respond to that better.

Senator MURPHY. Do you check with the Labor Department?

Mr. McELROY. I am quite familiar with their technical and operational aspects as well as with the people of the Labor Department.

Senator MURPHY. What I am interested in particularly, is how much hard information is available with regard to migrant labor. And I am shocked to find that there is a program that has been in effect for 21 years and apparently we all agree it is far from perfect but we just keep doing it because that is the way it was done the last time.

You say that the Labor Department does have better figures than this?

Mr. McELROY. No, sir, I don't. I did not mean to imply that the Labor Department had better figures. I said the Federal-State Employment Service operation from which SES figures come, is in the Labor Department rather than Agriculture.

Senator MURPHY. Do you think we should have some witnesses from the Labor Department that would be helpful to this committee in exploring this matter? I am asking your advice. I know I can make the choice.

Mr. McELROY. I don't know that I am quite sure just what the point is, Senator. I think with regard to this CPS information—it is national data or a global view that we are talking about here—that we cannot really relate in additive ways to SES statistics for among the reasons, the fact that many migrants are interstate.

Senator MURPHY. I understand that. But apparently we do not have very full information at least from the questions so far. I would say there is a 30-percent discrepancy. I merely asked if there are better figures available on a State basis. And if there are, I am quite sure there are in some States, why they are not incorporated, why they are not used, why we go back to a system that was started by the Census Bureau that obviously is 30 percent off one way or the other and we are not sure.

Mr. PAARLBERG. Senator Murphy, we are in contact with the Labor Department frequently. Assistant Secretary Weber is here and just a few moments ago he and I agreed to have lunch over at the Department of Agriculture and discuss this very matter and the level of farm wages that we report that they use in their operations. So we are trying to improve these figures and though they are not perfect and do have a margin of error, which margin we calculate, they are improving with the passage of time and they are useful.

And even though they may not describe the situation in detailed accuracy, they are sufficiently broad and indicative so that we feel that reasonably good judgment can be based on them. We continue to try to improve them but we do not feel that we are so short of hard information that important decisions are seriously impaired.

Senator MONDALE. Apparently statistical probabilities for error are accepted. There is about a one-third possibility of being off, 33 chances out of 100 of being wrong, so when we give a figure 257,000 migrants, it could be there are 286,000 or it could be there is 228,000, somewhere in that nearly 60,000 swing.

I wish there were ways of getting more accurate statistics for this committee. This committee has been in operation now for 10 years. We never felt very good about the figures we use in our own reports. We have tried to warn people that these are guesses. It seems

to me the data procured in December, as part of a business census, by an independent agency which is interested in all kinds of matters of which migratory labor is such a small part, is in reality a source which provides an informed guess, but does not give us the kind of specificity that I would like to see.

In any event it seems to me that these figures ought to be surrounded by some very bold face cautionary language so that when people use it they know we are dealing with statistical error and probability kinds of figures, rather than basic broad data of the kind we might otherwise expect and use.

In fact, you have been candid enough in your response to say that. You say this does not permit detailed analysis. But I think it would be better when the Department used these figures, and when we use them, if we say "This is a guess."

The truth of it is migrants are not counted are they? Would that be fair to say? We do not actually count migrants. We make an annual census sample and from that we project what we think. But no one counts them.

Senator MURPHY. There is another point if I may raise it. In California—it is not my intention to discuss propriety or impropriety or my feelings with regard to Public Law 78 but I do know that is an accepted fact that there are probably 125 to 130,000 illegal migrants in California right now, this minute.

Are they counted in any way? Is there any provision made for these people because whether they are under Public Law 78 or not, most of them are needed and they are all here and they are entitled to attention as far as I am concerned.

Mr. McELROY. To the extent that these migrants were still in California in December, that is they had not returned back to wherever they came from, then they would be counted; yes, sir.

Senator MONDALE. Wouldn't there be a bias there? If a farmer were using illegals, he would not likely respond on a business census that he had 30 or 40 illegal workers, would he? There might be someone knocking on the door in a few days and ask where the illegal entrants came from, and why he was using them.

Mr. McELROY. This is a household sample as opposed to an establishment sample so the enumeration would be of the individual of the household.

Senator MONDALE. Don't they say, "How many migrants do you hire here," or isn't it asked that way?

Mr. McELROY. No, sir. This sample is an enumeration of household members.

Senator MURPHY. What does that mean?

Mr. McELROY. It goes to the individual, same as the census.

Senator MURPHY. You send a questionnaire to the household?

Mr. McELROY. No; we send an enumerator with a questionnaire.

Senator MURPHY. And he goes in and says how many people do you have working here?

Mr. McELROY. There is other information obtained through this questionnaire.

Senator MURPHY. But does he say that?

Mr. McELROY. When he gets to that part he says—that is, the peel-off question is—is there anyone in this household who did farmwork for cash wages at any time during this year. Then if the answer is “Yes,” the questions pertaining to farmwork are asked.

Senator MURPHY. First they ask is there anyone in this household that did farmwork and if the answer is “Yes,” then the question is asked have they operated as migrant farmworkers? Is that the way they do it?

Mr. McELROY. Yes, sir; we obtain information on all hired workers; but there are also questions to determine whether or not they are migrants; yes, sir.

Senator MURPHY. Then there is a provision in those figures so that of all the farmworkers you have a very good reflection of the number or percentage that are migrant farmworkers because there is a difference?

Mr. McELROY. That is correct; our definition of migrant is whether or not they crossed county lines and stayed away at least overnight. If they respond that they did, then we consider them as migrants.

Senator MONDALE. Now, I don't wish to dwell on this at great length, but what value do you place on the fact that many of the migrants who make up the bulk of the migrant stream out of Texas and California are Spanish speaking, and an interpreter is needed? Are these census takers proficient in Spanish? Are we sure we are getting accurate information even when they turn up the right number of Mexican Americans in a sample?

Mr. McELROY. That is an interesting question. I have been down to both the Texas and California borders when this questionnaire was enumerated. The enumerators I observed in those areas were bilingual.

Senator MONDALE. They are always bilingual?

Mr. McELROY. All that I have been with; yes, sir. But let me say that I do not have personal knowledge about them all. Brownsville and Harlingen are places where we had people who spoke both English and Spanish. But by and large I have observed this to be a significant problem.

Senator MONDALE. Is this probability sample we are talking about here a standardized statistical projection based on the probability of finding the right person?

Mr. PAARLBERG. It is a standard deviation which is a statistical tool. It is a measure of deviation around the average.

Senator MONDALE. Has anybody calculated whether the standard deviation is an appropriate predictive tool for transitory migratory population? How accurately does it compare a poor Mexican-American migrant to an upper middle class American in terms of likelihood of being picked up in a census?

Mr. PAARLBERG. That is a different kind of question. Now the standard deviation I recorded, deviation of I think 29,000 above and below the 257,000. This is a measure of statistical probability based on sampling. Now the kind of thing you are talking about is what a statistician calls a nonsampling error. That is a different matter.

It is related to the design of experiment and to the question of whether or not a particular individual is likely to enter the sample and whether the data on his case was accurately reported. That is a thing apart from the standard deviation that is reported and is an additional possible source of error. How great that error is, it is impossible to determine from the statistical procedures.

Senator MONDALE. But the nonsampling errors are not accounted for either. That is just an assumption.

Mr. PAARLBERG. We do not know what the nonsampling errors are.

Senator MONDALE. I think it would be a good idea to get the Census Bureau to comment on this problem. The Labor Department is coming on next as witnesses. We know, for example, that the Census Bureau is very concerned about those who are not being counted—and they are principally the poor. Mexican Americans, some of them at least, may possibly be frightened by the Census Bureau. They might think an enumerator is the welfare bureau, or tax collector, or immigration officer, or George Murphy's Senate campaign workers. [Laughter.]

I am personally aware of this grave problem. We have seen how transitory and impoverished migrant farmworkers are, and I would think the chances of missing them, or not counting them accurately, or underestimating language difficulties, or if they have only a questionably legal status in this country the chances of getting an honest answer is quite remote.

So I think it would be valuable to discuss this matter with the Bureau.

As a former member of the Senate Agricultural Committee, I am impressed with how accurately we count acres of field grains and amounts of beans and stalks of corn, with enormous accuracy, but when it comes to human beings, we seem to be a little vague about it.

Mr. PAARLBERG. I agree with your appraisal, Senator. We work with the resources that are made available to us and these have not been as generous for this type of work as they have been for some other kinds. We would like to improve the data.

Senator MURPHY. May I make another observation. As Dr. Paarlberg was speaking, he talked about diminishing number of foreign nationals which is a concern of mine. Mechanization has destroyed jobs and many, many acres in California this year won't be used for crop production. This is a great concern to me because when the acreage goes down, the entire economy for the community shrinks. I opposed many of the projects in the past because I felt this would be the result. A washout of jobs.

A few years back we were told there was a definite plan to move people off the farms into the cities. Now we are working on a plan to move them from the cities back to the farms. So I got concerned as to whether those of us who are responsible for these matters, whether we ought to get our compasses boxed. Maybe we have not been wise in the past. That is why I am sure we have to find more exact ways to know the problems and certainly find better ways to solve them because the way we have been solving them up until now I don't think has been

very acceptable certainly from the standpoint of the migrant worker, nor do I think it has been productive from the standpoint of the general welfare of the Nation.

I merely wanted to say that because the chairman and I have discussed this at great length, many of these matters. They certainly need a great deal more study than they have had in the past.

Senator MONDALE. It seems to me that not only does the migrant often not count, but he is not even counted.

Senator MURPHY. He counts for the fellow who needs him for his harvest but outside of that he is cancelled out.

Senator MONDALE. Now, Mr. Paarlberg, in setting forth some of the detailed phenomena of the migrant farmworker situation, have you provided the rate of gradual absorption of former migrants into the nonfarmworking force? How many, for example, were absorbed into the nonfarmworking force last year?

Mr. PAARLBERG. We have some material of that kind in our prepared answers to your questions. We also have here some studies that were done. I recall one that was done in Michigan where a number of people formerly migrants had settled and established themselves and had found their way into the nonfarmworking force.

Senator MONDALE. Let us assume we have a quarter of a million migrants. At the present rate, about how many are leaving the migrant force? What is the net reduction of the migratory labor force annually?

Mr. PAARLBERG. About 22,000 a year.

Senator MONDALE. 22,000.

Mr. PAARLBERG. Migrants per year reduction.

Senator MONDALE. Is that the actual number of migrants leaving the stream?

Mr. PAARLBERG. That total loss of migratory workers, that is diminution in the number of people who are employed on farm jobs of a migratory nature.

Senator MONDALE. Would that be the number of jobs no longer available for migrants?

Mr. PAARLBERG. The number of persons who work at jobs. I suppose that measures diminution in number of available opportunities.

Senator MONDALE. Now, what about the number of hours worked by migrants. What is the trend of hours being worked?

Mr. PAARLBERG. I believe there is some diminution in that, is that not right, Mr. Motes?

Mr. MOTES. That is right.

Mr. PAARLBERG. We have a table on that. There has been some reduction in hours and days worked per person. Not a marked reduction, but some.

Senator MONDALE. And that data has been submitted to us?

Mr. PAARLBERG. Yes, sir, it has.

Senator MONDALE. So that the number of jobs last year dropped by approximately 22,000. And the hours worked in the agriculture industry is dropping?

Mr. PAARLBERG. But their nonfarm employment rises.

Senator MONDALE. Do we have figures on that?

MR. PAARLBERG. Yes, sir, we have the measure of diminution in number of migratory workers, measure of gradual reduction in number of hours and days worked on farms, and measure of the increase in overtime in the number of hours and days in nonfarmwork of these migrant laborers. Some of them gradually shift from farmwork to nonfarmwork while migrants. Some of them after a time abandon migrancy status and settle down and become employed exclusively in nonfarm jobs.

SENATOR MONDALE. Would it be fair to say that while the number of jobs is going down, the number of hours worked by farmworkers is going down much more rapidly?

MR. PAARLBERG. That is correct.

SENATOR MONDALE. Which means probably the farmworkers are not getting out of the stream fast enough.

MR. PAARLBERG. I think that is correct.

SENATOR MONDALE. There is a period during which they are being forced into a reduced income to make their shift. Would that indicate we need a better program of warning farmworkers as to the sort of mechanization hazards in the sugar beet and tobacco industries?

MR. PAARLBERG. That is correct. They do not have experience in nonfarmwork of a very extensive kind. It is only after the pressure of diminished opportunities in farmwork is applied that they are persuaded to look to other employment.

SENATOR MONDALE. Does the Department of Agriculture or the Department of Labor have programs in operation for migrants and farmworkers to explain to them the bleak future that is set forth in your statement for farmwork and migrancy?

MR. PAARLBERG. I believe the OEO has programs of that kind, Senator Mondale. I know that, for example, while I was at Purdue University our people there cooperated in educational programs of that sort.

SENATOR MONDALE. For example, you point out the situation in sugarbeets whereby mechanization and increased use of herbicides will cause a decrease in labor demand. That is an important crop in my State, and there are 8,000 to 10,000 Mexican-Americans that usually come up from Texas to work in those fields. I don't know how many there will be in Minnesota this year, but I assume there will be a significant reduction in need for such help. Is there a program for warning the migrants who have traditionally come north looking for those jobs that the jobs might not in fact be available?

MR. PAARLBERG. We are working at that this year. I do not have knowledge as to how long this has been the case. I will ask Mr. Motes to comment on that.

MR. MOTES. I am not sure exactly what the U.S. Labor Department does, or what the State labor departments do to let people know ahead of time what kind of jobs are likely to be available in these areas. I think it is only fair to say we have not had a good long-range, early warning system nor have we had a well-tailored package of programs to help people even when we knew they were likely to be out of work 2 or 3 years from now.

Senator MONDALE. So here we have a known and certain mechanization phenomenon that is going to cause disappearance of several thousand farmworker jobs which traditionally have been taken by the migrant worker, but No. 1, as I understand it, the Department of Agriculture does not have a program for going to these migrants and informing them of this.

Perhaps the Department of Labor has something. We will hear from them. But at least the main program, if any, is through OEO to advise them that these jobs might be disappearing.

Mr. PAARLBERG. Mr. McElroy and Mr. Motes report that associate work is done in the Department of Health, Education, and Welfare on this kind of thing. But apparently it also is sketchy. I think it is only fair to say, Senator, that the work in this area is fragmentary and sketchy but I would say it is encouraging that at least now the problem is recognized which was not previously the case.

Senator MONDALE. The staff has already made a preliminary inquiry on this question to Agriculture, Labor, HEW, and OEO, about what they are doing and we will print that response for the record.

(The material referred to follows:)

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United States Senate

COMMITTEE ON
 LABOR AND PUBLIC WELFARE
 WASHINGTON, D.C. 20510

ROBERT O. HARRIS, STAFF DIRECTOR
 JOHN S. FORSYTHE, GENERAL COUNSEL

ON FEBRUARY 2, 1970, SENATOR MONDALE SENT THE FOLLOWING LETTER
 TO THE SECRETARIES OF AGRICULTURE, LABOR, AND HEALTH, EDUCATION &
WELFARE, AND TO THE DIRECTOR OF THE OFFICE OF ECONOMIC OPPORTUNITY:

Dear Mr. :

Representatives of migrant and seasonal farmworker community and union organization efforts have recently brought to my attention the possibility that as many as 200,000 migrant farmworkers will be without work in the summer of 1970.

As you well know, unemployment affecting 200,000 migrants will create a severe impact on this Nation's institutions and resources. In home base areas, where migrants may stay rather than migrating, the present burden on already under-funded and under-staffed federal, state and local social and worker benefit programs will be multiplied. In user states where over 200,000 migrants may be stranded there are few if any community resources able to meet their immediate needs.

In view of the serious nature of this situation, I would be most appreciative if you could report to me as soon as possible just what steps your Office is taking to meet this impending crisis.

Your immediate attention to this matter would be deeply appreciated.

With warmest personal regards.

Sincerely,

Walter F. Mondale
 Chairman
 Subcommittee on Migratory Labor



MAR 3 1970

DEPARTMENT OF AGRICULTURE
OFFICE OF THE SECRETARY
WASHINGTON, D. C. 20250

March 2 1970

Honorable Walter F. Mondale
Chairman, Subcommittee on Migratory
Labor
United States Senate
Washington, D.C. 20510

Dear Senator Mondale:

This is in reply to your letter of February 2, informing us that you have received information from representatives of the farm worker community that they foresee the possibility of a lack of jobs for as many as 200,000 migrant farm workers this summer.

Thank you very much for your interest and for conveying the information to us.

Our preliminary figures for 1969 indicate there was a sizeable decline from 1968 in the numbers of all classes of hired farm workers. We have no reason to expect that this trend will not continue. However, we believe the figure you give is more nearly in the range for all hired farm workers than for the migrant segment alone.

There has been a declining trend in agricultural employment for several decades now. Efforts to facilitate adjustment and re-employment of those displaced have not been as successful as we would like. This has deeply concerned us for a long time. Accordingly, we have requested that the Rural Affairs Council direct its attention to the immediate problems faced by farm labor.

Again, thank you very much for your interest and concern.

Sincerely,

A handwritten signature in cursive script, reading "Clifford M. Hardin", is written over the typed name.

CLIFFORD M. HARDIN
Secretary

RALPH YARBOROUGH, TEX., CHAIRMAN

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 JOHN S. FORSYTHE, GENERAL COUNSEL

United States Senate

COMMITTEE ON
 LABOR AND PUBLIC WELFARE
 WASHINGTON, D.C. 20510

March 10, 1970

Dr. Theodore C. Byerly, Director
 Rural Affairs Council
 Department of Agriculture
 Washington, D.C.

Dear Dr. Byerly:

I am enclosing a copy of a letter that I recently sent to Secretary Hardin on February 2, 1970, and a copy of his March 2, reply to my letter. You will note that in the Secretary's reply, he specifically referred to the work of the Rural Affairs Council on the immediate problems faced by farm labor. In view of your interest, I would like to know the total number of migrant farmworkers that will face a lack of work this year on a state by state basis, and the months of the year that will be involved. Additionally, I would like to know what the Department of Agriculture is doing to prevent migrants from arriving in local situations where substantial reductions in manpower needs are expected.

Your immediate attention to this matter will be greatly appreciated.

With warmest personal regards.

Sincerely,

Walter F. Mondale
 Chairman
 Subcommittee on Migratory Labor

U. S. DEPARTMENT OF LABOR
OFFICE OF THE SECRETARY
WASHINGTON

Honorable Walter F. Mondale
Chairman, Subcommittee on Migratory Labor
Committee on Labor and Public Welfare
United States Senate
Washington, D.C. 20510

Dear Mr. Chairman:

I share the concern expressed in your letter of February 2, 1970, regarding the impact of unemployment of migrant farmworkers.

Although statistics should not be belabored in an area where they are not very firm, the estimate that as many as 200,000 migrants will be without work in the summer of 1970 seems surprisingly high, even if it is assumed that this figure includes family members. This estimate indicates an employment decline of nearly 20 percent in the summer of 1970, whereas the average annual decrease of migrant farmworkers in the last decade has been only about 5 percent. Although any projection of seasonal employment in agriculture is hazardous due to the weather factor, we had assumed the usual attrition of about 5 percent in 1970, attributable mostly to increased use of chemical herbicides in sugar beets and cotton. In the fruit and vegetable harvests where most migrants are employed, no major technological breakthroughs seem likely this year.

Even though there may be differences in estimates of the scope of migrant unemployment in 1970, there is no disagreement that the problem is serious and will become increasingly serious in the next few years.

The long-term policy of the Labor Department is to reduce the need for migrancy with all its social and economic ill effects. Farm employers will be encouraged to develop local sources of labor, particularly housewives and students, and rely on them

to the greatest extent possible. At the same time, migrants will be given job training and relocation assistance that will enable them to obtain nonegricultural employment or farm work that does not require seasonal traveling. We will also try to do a better job of directing migrants to the areas of labor shortage that still exist despite an overall national surplus of farm labor. In some cases, of course, the situation is complicated by lack of suitable housing in the areas of labor shortage.

To give us guidelines on how best to provide the services needed by migrants is the purpose of a large-scale demonstration project focusing multi-agency resources on a target group of 779 families of Texas-based migrants. (The objectives and mechanics of this program are described in the enclosure.) The Manpower Administration is now planning the second year's cycle of this project. This year will be a transitory one from experimental to regular program operations.

The problems of migratory workers are of long standing and are not likely to be solved entirely this summer but we will try to the extent of our ability and resources to make some progress toward their solution. As Chairman of the Subcommittee on Migratory Labor, you are even more aware than I that not only must the employment problems of migrants be attacked but all public and private agencies with an interest in migrants must expand the supportive services needed to cope with a whole range of social problems.

Sincerely,

Secretary of Labor

Enclosure

TEXAS FARM MIGRANT DEMONSTRATION PROJECT

The Department of Labor is financing an experimental and demonstration project, which got underway in the spring of 1969, designed to find ways to alleviate the situation of the migrant farm worker. The Department's Manpower Administration, through its United States Training and Employment Service and affiliated State employment security agencies, is attempting to determine if a coordinated interstate program focusing multi-agency resources on a target group of 779 families can be successful in helping these individuals make the transition into the mainstream of economic and social well-being. Project staff are directing their attention toward three distinct points in the yearly migrant cycle: (1) At the home base, southern Texas, before migration begins; (2) in the northern States where the migrants go to find work; and (3) back in Texas again after seasonal employment is completed.

At the first point, Texas Employment Commission staff determines to the extent possible the expected needs of migrants when they arrive in the North. This information is then sent via the folder maintained for each family to the participating employment security agencies on the receiving end of the migrant stream--Idaho, Washington, Oregon, Wisconsin, Minnesota, Indiana, Illinois, Michigan, and Ohio. These States do their best to provide the migrants with the services required. They themselves give employment assistance, and see that the migrants get to the proper resources for aid in such areas as health, education, housing, and welfare. They also work with the families to determine: (1) The home-based or long range needs of the people; and (2) the desire to leave the migrant stream. This information is recorded in the folders and returned to the Texas Employment Commission. At the third point in the cycle, Texas staff works very closely with the migrant families to assist them in improving their situations--solving those problems that are of an immediate nature, and working toward the achievement of new occupational goals.

RALPH TARBOROUGH, TEX., CHAIRMAN

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United States Senate

COMMITTEE ON
 LABOR AND PUBLIC WELFARE
 WASHINGTON, D.C. 20510

ROBERT O. HARRIS, STAFF DIRECTOR
 JOHN S. FORSYTHE, GENERAL COUNSEL

March 3, 1970

Honorable George P. Shultz
 Secretary
 U.S. Department of Labor
 Washington, D.C.

Dear Mr. Secretary:

Thank you very much for your letter of February 24, 1970, which was in response to my inquiry about potential unemployment of migrant farm-workers.

I was indeed heartened by your response indicating a commitment on the part of the Department of Labor to meet the increasingly serious realities of migrant unemployment in the future. I am in general accord with the long term policies of the Department which you expressed in your letter, and I look forward to the result of the Texas demonstration project which is focusing multi-agency resources on a target group of migrant families.

I also share your conclusion that the employment problems of migrants must be attacked by all public and private agencies with an interest in migrants, and in this regard I would like to have further information on the exact nature of unemployment expected in 1970. Specifically, I assume from your letter that because "no major technological breakthroughs seem likely this year" there will be no increased displacement of migrants working in fruit and vegetable harvests.

I am concerned, however, about the displacement of farmworkers in sugar beet and cotton, attributable to increased use of chemical herbicides. Specifically, I would like to know the total number of employees that will be displaced in cotton and sugar beets on a state by state basis, and the months of the year that will be involved. Additionally, I would like to know what the Department of Labor is doing to prevent migrants from arriving in local situations where substantial reductions in manpower needs are expected.

Thank you very much again for your most encouraging response, and I look forward to an expanded reply to the above questions.

With warmest personal regards.

Sincerely,

Walter F. Mondale, Chairman
 Subcommittee on Migratory Labor

U. S. DEPARTMENT OF LABOR

OFFICE OF THE SECRETARY

WASHINGTON

MAR 17 1970

Honorable Walter F. Mondale
Chairman, Subcommittee on Migratory Labor
Committee on Labor and Public Welfare
United States Senate
Washington, D.C. 20510

Dear Mr. Chairman:

This is in response to your letter of March 3, 1970, expressing concern about displacement of migratory workers by increased use of chemical herbicides in cultivation of cotton and sugar beets.

The data available to us are not nearly detailed enough to permit a State-by-State projection of the number of migrants who might be displaced this year by labor-saving technology in cotton and sugar beet cultivation. Further, even a national projection at this time will be little more than a guess, since the effectiveness of the herbicides is greatly affected by weather conditions.

Simple projection of the national trend of recent years in seasonal labor needs for hoeing and weeding cotton and sugar beets, with the assumptions that migrant and local labor are equally affected and weather conditions are suitable for effective use of herbicides, would indicate that about 10,000 migrant workers might be displaced. (This does not include non-working family members who may be traveling with them.) Displacement, if it does occur, would probably be most heavily concentrated in June and July.

It is the policy of the Labor Department, as expressed in our regulations regarding interstate recruitment of farm labor, not to accept job orders for interstate clearance unless the employment service agency in the labor demand State has established that workers are not available locally or within the State. Forecasting agricultural labor needs is far from an exact science, however, and a labor shortage situation can easily change to a labor surplus and vice versa, depending on weather, market conditions, and other variables. Many migrants are freewheelers who do not contact the

public employment service system for information or assistance in work scheduling, and there is little we can do to control their movements.

Orders placed in interstate clearance will be carefully reviewed to assure that the number of workers requested is realistic, as nearly as can be determined. We will also urge the State agencies to try to contact freewheelers and direct them from areas of labor surplus to areas where jobs may be available.

Sincerely,

George P. Shultz

Secretary of Labor



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20201

February 6, 1970

Dear Mr. Chairman:

The Secretary has received your February 2 letter regarding the employment of migrant and seasonal farmworkers.

A reply will be forwarded to you as soon as possible.

Sincerely,

A handwritten signature in cursive script, reading "Jerry W. Poole".

Jerry W. Poole
Deputy Assistant Secretary for
Congressional Liaison

Honorable Walter F. Mondale
Chairman, Subcommittee on Migratory Labor
Committee on Labor and Public Welfare
United States Senate
Washington, D.C. 20510



THE SECRETARY OF HEALTH, EDUCATION, AND WELFARE
WASHINGTON, D. C. 20201

MAR 1 1970

MAR - 6 1970

Dear Senator Mondale:

In mid-January, a group of consultants met with members of the staff of the Office of the Assistant Secretary for Planning and Evaluation to prepare an evaluation design for the Department's Migrant Health Program. At that meeting, migrant representatives informed us of the possibility of an employment crisis this season caused by agri-business' increased use of chemicals and machines.

Since then, members of my staff have been working with the Departments of Labor and Agriculture and the Office of Economic Opportunity to determine the probable extent of the problem. In addition, we have sent teams of migrant workers through the major growing areas of the mid-west to gather information at the local level.

Concurrently with the above effort, we are examining the programs of this Department to identify those which most effectively can be used to alleviate the present crisis and to prevent future crises. We are focusing primarily on stipended education and training programs, and on others which provide some form of income maintenance.

I expect a report from my staff in the near future, and at that time can provide you with a more detailed account of our findings as to the scope of the problem and our response to it. Until then, I trust the above information will indicate to you that we are aware of the situation, that we are concerned about it, and that we are taking positive steps to deal with it.

Sincerely,

Secretary

Honorable Walter F. Mondale
United States Senate
Washington, D. C. 20510

OFFICE OF ECONOMIC
OPPORTUNITY

EXECUTIVE OFFICE OF THE PRESIDENT
WASHINGTON, D.C. 20506

February 6, 1970

Honorable Walter F. Mondale
Chairman, Subcommittee on Migratory Labor
Committee on Labor and Public Welfare
United States Senate
Washington, D. C. 20510

Dear Mr. Chairman:

Thank you for your correspondence of February 2 addressed to Director Donald Rumsfeld, regarding possible unemployment of 200,000 migrant farmworkers in the summer of 1970. We have noted your request for a report on what assistance the Office of Economic Opportunity is providing to meet this problem.

We appreciate your bringing this matter to our attention. You will be receiving a reply from us soon.

In the meantime, please do not hesitate to contact me if I can be of further assistance to you or your staff.

Sincerely,

Carol M. Khosrovi

Carol M. Khosrovi
Associate Director for
Congressional and Governmental Relations

5 1970

EXECUTIVE OFFICE OF THE PRESIDENT
WASHINGTON, D.C. 20506OFFICE OF ECONOMIC
OPPORTUNITY

4 MAR 1970

Honorable Walter F. Mondale
United States Senate
Washington, D. C. 20510

Dear Senator Mondale:

Mr. Rumsfeld has asked me to respond to your letter of February 2, 1970, regarding the problems of displaced farmworkers.

We certainly concur that the plight of the farmworkers this coming harvest season will indeed be serious. All indications are that there will be more unemployed and underemployed farmworkers stranded in the northern states than ever before. The Office of Economic Opportunity recognizes this crisis and is attempting to respond by providing the farmworker with a reasonable alternative if he must or chooses to leave farm work. This is the major thrust of the 88 programs in 37 states funded under Title III-B of the Economic Opportunity Act of 1964, as amended. Providing these alternatives, however, means a sizeable investment in education and skills training. For instance, twenty weeks of training for 10,000 farmworkers at the very modest cost of \$50.00 per week costs \$10 million.

During Fiscal Year 1969, about 28,000 farmworkers participated in various education and rehabilitation programs sponsored by the Office of Economic Opportunity. Most of these will have jobs this coming summer either in mechanized agriculture or away from the fields entirely. The Office of Economic Opportunity plans to continue these education and rehabilitation services, as well as providing for the housing and day care needs of as many farmworkers as possible. In addition, we are working closely with the Department of Labor and the Department of Health, Education and Welfare in coordinating our funds and efforts to serve the farmworkers.

Unquestionably, a major Federal Government effort is needed to avoid the impending disaster facing this mobile, underemployed and impoverished population. Realistically, we feel that the resources available simply will not be adequate to solve the problem. The Office of Economic Opportunity Fiscal Year 1969 appropriation of \$27.5 million allowed us to reach less than 10% of the eligible participants. As the Fiscal Year 1970 appropriation is still pending Congressional consideration,

we are unable to contemplate any expansion at this time. Initially, it was anticipated that approximately \$31 to \$33 million would be available for migrant programs in Fiscal Year 1970. However, should Congress elect to earmark the Office of Economic Opportunity funds, then this probably would result in a decrease in the amount available for migrant programs.

We appreciate your concern for the farmworkers. Please be assured that we share that concern and will do everything possible within our resources to alleviate the situation. If we can provide any further information, please feel free to call on us.

Sincerely,


Frank Carlucci
Assistant Director
for Operations

Senator MONDALE. Your testimony, Mr. Paarlberg, as I understand it, is that the migrant is in for a tough time——

Mr. PAARLBERG. Indeed.

Senator MONDALE. Because mechanization is reducing the need for his work. Last year 22,000 jobs disappeared. And, if anything, the problem of aiding migratory labor in getting where they are needed at critical points is becoming a major and sophisticated effort. And I understand that this has to be done with some very careful coordinated national planning. Unless the system works efficiently, the migrant is going to have to wait weeks and weeks between jobs, wondering where he might get employment next. It takes more and more skill just to be at the right place at the right time.

Mr. PAARLBERG. That is a correct appraisal, Senator.

Senator MONDALE. And if we assume one of the jobs of the Labor Department if not the Department of Agriculture is to try to aid the migrant to get not only where the jobs are, but where it is best for him, where he is going to earn the best pay, it gets increasingly difficult.

Mr. PAARLBERG. That is correct. The changes are coming rapidly. Last year's experience is not a safe gage as to what next year's experience will be.

Senator MONDALE. In your opinion is there a process by which we are gearing up, to the advantage of the farmworker, to get him where he should be so he can maximize his yearly earnings in this profession?

Mr. PAARLBERG. I would say it is in the interest of the farmer and of the migratory worker and of the Department of Agriculture and of the Department of Labor all to try to facilitate the adjustments to these very great changes that are underway.

Senator MONDALE. Do we have an actual program that informs these migrants that they are at the right place, at the right time, for the benefit of both the migrant and the farmer?

Mr. PAARLBERG. Yes, sir.

Senator MONDALE. What is that and how effectively does it work?

Mr. PAARLBERG. That is the Employment Service of the Department of Labor. I do not have detailed information of that Service. It is possible that my associates here may have. I think perhaps the boys from the Labor Department could be more helpful on that, Senator, than we.

Senator MONDALE. They are coming on as witnesses next. We will also ask them about that.

In your response to our questions, you said that you spent something like \$125 million on research in the Department of Agriculture which can lead to a reduction of labor demand. This involves different kinds of research that the Department of Agriculture funds directly that will lead to mechanization, or other ways in which to reduce the need for farm labor.

Did I understand that correctly?

Mr. PAARLBERG. I don't recall the figure precisely but it sounds like a reasonable figure, Senator. I may say that the purpose of this research is to lower production costs, to increase farm efficiency. One of the effects of it often is mechanization and reduced need for labor. Other results are increased yields per acre. We do not set out to do

research with the deliberate purpose of reducing farm employment opportunities. That sometimes does result from research that is undertaken in order to improve efficiency.

Senator MONDALE. On table 19 entitled "Expenditures on Research to Improve Agriculture Production Technology 1970 program," \$135 million expenditure is estimated. Would it not be fair to say that a good deal of that research is designed to reach objectives which might reduce the need for farm labor? Isn't mechanization of the sugar beet crop or tobacco mechanization the development of labor reducing technology that comes about in part from the impact of some of this research money?

Mr. PAARLBERG. I think you state it well that labor reduction does result in part from these research activities. But, the thrust of the research is to reduce unit production costs and to improve efficiency. We do not set out to undertake research for the deliberate effect of reducing jobs.

I grant you that some of the research does have these effects and it may not be in some minds a major distinction as to what the intention is. The consequence is reduced employment opportunities for migrant farm labor. For that matter for casual farm labor, seasonal farm labor or year-round, hand labor for farm operators themselves.

Senator MONDALE. As you know I am not critical of that budget. I support it. I think it has been very valuable to this country. But I do not see that we can spend \$135 million a year to develop technology which might reduce the need for farmworkers while at the same time we do not have an adequate program to lighten the load on the farmworker in terms of consequences of that new technology.

It seems to me we are fairly light in that. I gather that is what you say in your testimony. You said on page 46 of your response:

However, the Department of Agriculture has both farmers and farmworkers among its constituency and we recognize a deep and traditional, as well as legal, responsibility to farmworkers. Continuing programs of the Department pertain specifically to hired farmworkers include rural housing loans for farmworkers, wage regulations for workers in sugar crops, and research.

I do not doubt that commitment, but it seems to me that in the development of data, in the development of information programs for the farmworker, in warning them about the bleak future of migrancy, I don't see the same sense of urgency, the same commitment of resources. Would that be fair?

Mr. PAARLBERG. That is correct. We use the resources that are made available to us through appropriations. There has been more enthusiasm on the part of the appropriate agencies to support research work in production efficiency than there has been to support research work in the areas of migrant labor.

Senator MONDALE. I have no doubt that that is true. And, I think that is a part of the definition of the powerlessness of the migrant. Nobody listens to him. Nobody knows he is around. We found out he is not even counted. But as your role as a representative of the farmworker, in your last budget did you ask for funds to do something of this sort?

Mr. PAARLBERG. We did.

Senator MONDALE. Were they turned down?

Mr. PAARLBERG. They were granted in part.

Senator MONDALE. What have you asked for?

Mr. PAARLBERG. We have additional requests before Congress at present and we do not know what the response will be there.

Senator MONDALE. What did you ask for?

Mr. PAARLBERG. Twenty-percent increase.

Senator MONDALE. In what?

Mr. PAARLBERG. In 1971 budget.

Senator MONDALE. For what?

Mr. PAARLBERG. For the 1971 budget for the whole area of research on economic development which includes the human area we will say of which migrant work is one part.

Senator MONDALE. How much money does that involve?

Mr. PAARLBERG. \$400,000.

Senator MONDALE. And this would do what? What would you do with that \$400,000.

Mr. PAARLBERG. I will ask Mr. Motes to reply.

Mr. MOTES. Try to count them a little better. In addition to that we need to know a lot about where migrants live, where they start from, how they find out what their work patterns are, what their opportunities are as the migrant stream continues to dwindle. We hope to find out what their characteristics are, what the job's characteristics they face are now and in the future. Essentially the kind of early warning—

Senator MONDALE. Would you say you do not have answers to the questions I just raised?

Mr. MOTES. We do not have precise answers.

Senator MONDALE. And you are not satisfied?

Mr. MOTES. We are not satisfied.

Senator MONDALE. That they are as active—

Mr. MOTES. I don't think the data problem is as great as you apparently do.

Senator MONDALE. As I gather from Mr. Paarlberg's statement, you are not in a position to make projections on those very questions.

Mr. PAARLBERG. Senator, despite the inaccuracies of our data, it seems to me that the major dimensions of the problem emerge clearly. Clearly enough to give policy guidance with respect to some of the actions that should be taken and some of the services that are needed.

It is clear to us even though our figures are imprecise, that there will be a diminution in the number of farmworkers including migrant farmworkers and these people will have to transfer to the nonfarm-working force and that in doing this they are going to need social services, training, and assistance of various kinds.

Senator MONDALE. Now I am told by the staff that the figures you cited this morning on projection for sugarbeets and the similar projection of fruit and vegetable crops is the first projection ever made by the Department of this kind. Would that be accurate?

Mr. MOTES. That is accurate. We have never really done this.

Senator MONDALE. This is the thing the Department has projected for needs in the future. Is that correct?

Mr. MOTES. We are talking about migrants?

Senator MONDALE. Yes, sir; the first time?

Mr. PAARLBERG. Evidently that is correct.

Senator MONDALE. One final question.

You say that you are going to ask the Rural Affairs Council to consider what projects should be appropriated in areas where redundant labor supplies might be expected, and I welcome that.

Are there any farmworkers on that Council?

Mr. PAARLBERG. No, this is a council of Cabinet officers, Senator.

Senator MONDALE. Does your particular office have farmworkers on its advisory council? Are they ever called in?

Mr. PAARLBERG. I do not believe we have an advisory council for our research program. I will ask Mr. Motes.

Mr. MOTES. No.

Senator MONDALE. Wouldn't it be a good idea to talk to them?

We held days of hearings here, and I assume the Department follows those transcripts, and one is appalled by the sense of powerlessness of migrants. They will take their families—children and wives, and they will take a car, and they will go someplace where they are told there is work, and they will arrive often a week or 2 weeks or 3 weeks early, and how do they stay alive? What do they do during that time when there is no chance for earning any money? Maybe there is bad weather. Then they wonder where to go and find another job.

I think these people work harder for less money than any other people in the country. I believe they have an understanding and a perception of the inadequacy of this system that exceeds that which any of us could have because they live with it every day.

Mr. PAARLBERG. We have done many studies. This large file here consists of studies that have been done of this problem involving in many cases Department interviews with migrant workers to learn their attitudes and desires and hopes.

So that while I would not say that we have done as much work as is needful in this area, we have done a considerable amount and the amount is growing. The awareness of the problem is growing. Our desire for additional support to carry on this work is evident.

We do not boast of what we have done but we do wish to make clear our growing awareness of the difficulty and our increased willingness for resources if we can get them.

Senator MONDALE. I appreciate that, but I think it would be a good idea for the Department of Agriculture to establish a small advisory group which includes representative farmworkers, people who have actually worked and lived in the migrant stream. I think their insights, and their sense of urgency that you could get from that kind of advice is something that none of us possess, and no report can truly reflect.

I am not being critical here but I think that would give your Department strength.

Mr. PAARLBERG. We appreciate that counsel and that does sound like a very appropriate suggestion, Senator.

Senator MONDALE. Thank you, Mr. Paarlberg. We will print the materials which you have submitted at the close of today's testimony.

Our next witness is the Assistant Secretary for Manpower, an experienced hand before the Labor and Public Welfare Committee, Mr. Arnold Weber.

**STATEMENT OF ARNOLD R. WEBER, ASSISTANT SECRETARY FOR
MANPOWER, U.S. DEPARTMENT OF LABOR, WASHINGTON D.C.;
ACCOMPANIED BY STANLEY M. KNEBEL, ASSISTANT DIRECTOR,
FARM LABOR AND RURAL MANPOWER SERVICE**

Mr. WEBER. I am pleased to be here; my other appearances have been before other subcommittees and this, in fact, is my first appearance before this subcommittee. I have with me Mr. Stanley Knebel of the Farm Labor and Rural Manpower Service of the Manpower Administration, Department of Labor. I have a prepared statement which I would like to present.

Senator MONDALE. We will print your full statement at this point in the record.

You may proceed as you wish.

(The prepared statement of Mr. Weber follows:)

PREPARED STATEMENT OF HON. ARNOLD R. WEBER, ASSISTANT
SECRETARY FOR MANPOWER, U.S. DEPARTMENT OF LABOR

Mr. Chairman, I am pleased to make my first appearance before this Subcommittee. I am acquainted with your continued efforts to improve the economic and social status of a group whose special problems rightly give rise to special concerns--the migratory farmworkers and their families.

In response to your request, the Department of Labor, jointly with the Department of Agriculture, has provided the Subcommittee with detailed information on the status of the migrant worker. I will not review all of the data contained in that report. However, I would like to delineate briefly the nature of the migratory labor problem as we view it from the perspective of the Department of Labor. Within this framework, we can discuss specific problem areas and suggested policies and programs which may help to cope with these problems:

The Nature of the Problem

According to the most recent reports of the Department of Agriculture there are approximately 257,000 farmworkers who leave their normal place of residence to seek employment elsewhere. Sometimes this work itinerary will span thousands of miles and will involve entire families. A study of migrants from South Texas shows that the families average about six and a half members. Approximately 40% of this family population is composed of children below 16 years of age. Nearly all of the children suffer from educational deficiencies because of irregular schooling.

In their travels, these workers tend to follow well-defined paths developed over a period of years. The largest of these migrations is the midcontinent stream. Most of the South Central States feed this stream, although the largest number of migratory farm workers originate in Texas. The most important part of this stream travels to the Great Lakes States to harvest canning crops and to cultivate sugar beets. Another branch travels to the sugar beet and vegetable areas in the mountain States. A third major group moves through the Southwest to the Pacific Coast harvesting fruit and vegetables.

Another major pattern of migration is the movement along the East Coast. The bulk of these workers come from Florida, but some originate in other South Atlantic States. When the winter harvest of vegetables and citrus fruits in Florida is completed, they travel to North Carolina, Virginia, Maryland, Delaware, New Jersey and New York State.

Along the West Coast, there is a substantial interchange of workers among California, Oregon, and Washington.

Aside from these three basic migratory patterns, there are many minor routes which form an intricate network over the country.

The intrinsically unstructured and unstable nature of the migrant labor market is central to the employment problems of the migrant worker. His employment is discontinuous--lapsing as he moves from one harvest area to another with consequent losses in productive time. The demand for his services and, therefore, his earnings are unstable--subject to the vagaries of weather and crop failures. Working for a number of different employers in the course of a year, the nature of his living and working conditions are likely to vary significantly from job to job.

The economic problems resulting from this lack of stability in the job market for migrants are further complicated by the fact that these workers are largely from disadvantaged backgrounds. For example, nearly one-half of migrant farmworkers are members of minority groups--Mexican-Americans and Negroes--with the accompanying handicaps which arise from racial discrimination and lack of adequate educational and training opportunities.

The yearly income of migrant workers, both farm and nonfarm, was less than \$1,800 in 1969. The consequences of this marginal economic status impinge upon various aspects of the migrant worker's present conditions of life and future prospects. Frequently, these workers and their families are undernourished. They receive inadequate medical care. When they can no longer work in their customary occupation they will almost certainly become the objects of public relief someplace in the nation. And permitting their children to grow up without an education, or with an education which is not geared to the needs of the future, we are passing on a compounded debt of unemployment costs to the next generation.

These problems relate to the responsibilities of various agencies. I will give attention to those problem areas within the particular competence of the Department of Labor and which we feel merit continuing attention and constructive action. These include: developing stability of employment; the maintenance of wage, working and living standards; the extension of social legislation coverage; and easing the transition from migrant status to the industrial sector. Finally, the special problems arising from the pattern of Mexicans commuting across the border to work in the United States merit attention.

Stability of Employment

Although the use of migrant labor is declining--having decreased from approximately 400,000 migrant farmworkers in 1960 to roughly 250,000 at present--migrant workers will be a significant segment of the farm labor force for some time. The work of migrants is by its very nature seasonal and unstable, thus, we must continue to provide information and assistance in scheduling jobs to give these workers as much stable annual employment as possible. This is no easy task in view of weather and the other uncertainties that affect the farm labor market. In addition, many migrants, especially the middle-aged and elderly, may not be able or willing to train for other occupations.

The Federal-State employment service system helps to achieve stability in the employment of migrants through the Annual Worker Plan. For those assisted under the plan, both family groups and crews, comprehensive itineraries are planned weeks ahead of the work season. After job orders are forwarded by States with manpower needs, interviews are conducted with crew leaders and migrant family heads. They are provided with specific information about employment opportunities, housing, wage rates, and other job conditions in demand States. These interviews provide the basis for the Agricultural Worker Schedule. This arrangement includes the names of the crew or family leader, the composition of the crew, and transportation and housing requirements. The Schedule also shows the names and addresses of all farm employers for whom the crew will be working during the active season. The plan helps to decrease time lost between jobs for migrant

workers while assuring employers a dependable work force. In 1968, over 106,000 interstate migrant workers were assisted under the Annual Worker Plan.

Maintenance of Wage, Working and Living Standards

The instability of migrant employment has clearly contributed to the problems of low wages and deficient working conditions. A general surplus of agricultural labor in an inherently inefficient labor market has resulted in traditionally poor wages and conditions of employment for migrants. This problem has been compounded by the general absence of worker organization in the agricultural sector and the lack of full coverage under the Wage-Hour law.

We have sought to influence the economic and social conditions of the migrant through the Federal-State employment service system. As noted previously, we assist employers by recruiting workers through the interstate clearance system of the Federal-State employment service. However, we require that employers agree to meet the minimal standards we have established relating to wages, pay for transportation, and housing. There has been considerable controversy associated with the higher housing standards that the Department of Labor instituted in 1968. The public employment service has lost the business of some farm employers because of our insistence on these standards. We regret this loss. Nevertheless, we feel that if our facilities are used to bring large numbers of seasonally employed workers into a community, we have an obligation to see that provisions have been made for housing them and that the housing meets decent health and safety standards. Such standards serve the interests of both the worker and the community.

Extension of Coverage Under Social Legislation

As a further index of their peripheral status, agricultural workers generally have been excluded from the benefits of the Nation's social legislation. An important step forward was taken with the passage of the 1966 amendments to the Fair Labor Standards Act which brought employees of large farms under the protection of the minimum wage. The Department of Labor has made two important proposals that would extend social legislation already applicable to industrial workers to the agricultural labor force as well:

Extending UI Coverage. The Department supports the extension of unemployment insurance coverage to farmworkers, including migrants. We were therefore pleased to note that the Senate last week included migrant workers in extending UI coverage to employees of the Nation's larger farms. We hope that these coverage provisions will be retained by the conference committee.

The bill passed by the Senate provides coverage for only a limited proportion of the farm labor force, but involves a substantial number of workers. We estimate that it will bring under UI coverage, approximately 275,000 workers or 22% of all farm jobs. Of these, roughly 18,000 will be employees of crew leaders, i.e., migrant workers.

We feel that these new provisions, if enacted, will provide a significant beginning in bringing the benefits of unemployment insurance coverage to the Nation's agricultural work force. We hope to study closely the impact of any extension of UI coverage to migrant workers to determine: (1.) the extent of increased costs to the employer, (2.) problems of administration, and (3.) the extent to which migrant workers actually

claim benefits. On the basis of such research, we will be able to strengthen our administration of these new provisions and to inform the Congress of the feasibility of broadening these provisions of the Unemployment Insurance law.

Bargaining Rights. Last May, Secretary Shultz, in his testimony before the Senate Labor Subcommittee, endorsed the right of farm workers to organize unions and to designate representatives to negotiate the terms and conditions of their employment. In view of the unique characteristics of work in agriculture, we have proposed the establishment of a special board to deal with labor-management problems in the industry and have suggested a mechanism for settling strikes which occur during the harvest season, with their potential for great damage to the farmer. The problem of affording protection against strikes at harvest times while preserving the spirit of free collective bargaining is a difficult one, and we do not believe it can be solved simply by extending the National Labor Relations Act to agriculture.

Easing the Transition from Migrant Status to the Industrial Sector

Evidence indicates that the system of migratory labor in agriculture is gradually phasing out as a major labor market activity. Each year, the number of migrants decreases as the number of job opportunities dwindles. Occasionally, a major technological breakthrough, like the cotton harvester, eliminates jobs in wholesale lots. More typically, the process has been one of erosion, with new production methods being perfected and adopted over time.

If the transition to a settled life can be made successfully, not many people will mourn the ending of migrancy. The social and political institutions of our society are designed to serve a stable population and

have not been sufficiently responsive to the special problems of agricultural migrants.

Migrants must be afforded an opportunity to move out of the migrant stream, to sink roots in a community where sufficient jobs are available, and to obtain the services that will enable them to make a transition to other employment without bearing excessive personal costs.

The process of transition promises to be troubled, however, for the migrants, for the farmers who employ them, and for the public agencies concerned about their welfare. Migrants generally lack the education, training and related prerequisites for making an easy transition to the industrial sector. The Labor Department will do its share to minimize the social and economic costs of this transition.

Under the institutional training provisions of the MDTA, an estimated 20 percent (some 200,000) of all trainees from 1963 to 1968 were in rural areas. The Neighborhood Youth Corps has served more than one-half million rural youth. These enrollees include migrants whose training and work experience under these programs have taken them out of the migrant stream.

I would like to mention three special projects which point the way to our future activities in this area.

Experimental Migrant Program. An ongoing experimental-demonstration program is focusing the attention and resources of 10 State employment security agencies on the problems of approximately 750 predominantly Mexican-American farm migrant families. The families follow the migrant stream from Texas to the North Central and Northwestern States for agricultural work. Within a few years, mechanization probably will force many

of these individuals into the ranks of the unemployed unless they are prepared for other occupations by proper training and supportive services. The Texas Employment Commission, as well as nine agencies in the "receiver" States, are working with the migrant families to help prepare them for the anticipated changes. They are providing MDTA occupational training and basic education to these workers and extending relocation assistance to enable their families to move to other States.

Job Banks. The Job Bank is a new development in employment service operations which will ultimately give migrant workers greater access to employment opportunities outside the migrant stream. In the Baltimore area, which served as prototype for this system, all ES counselors and interviewers in the area, plus some 20 cooperating agencies, are provided with a daily computer print-out of all job openings listed with the ES or the cooperating agencies. The result has been a sharp reduction in point-less referrals and visits to employers and a sharp increase in placements of disadvantaged applicants. The heart of the system is the Job Bank book, reproduced directly from the master computer printout. It contains a listing of both job openings and apprenticeship and other training opportunities. Each morning, copies of the book are put on 50 different desks in the ES central office and 15 or more outreach stations throughout the Baltimore area.

Plans are already underway to extend Job Banks to rural areas. The Maryland agency has recently started to produce a Job Bank which covers job openings in several small towns. Books will be regularly distributed to selected OEO offices at designated rural locations and serviced by itinerant ES personnel. For the first time, on an organized and continuous basis,

rural areas with limited employment prospects will have access to all job opportunities in local and contiguous urban areas of Maryland.

Some of the 75,000 agricultural migrants originating in the Rio Grande Valley and the 30,000 who migrate from Florida have expressed a desire to settle in the northern States to which they travel yearly. The availability of Job Bank books at their point of origin and points of employment in the northern States could be a useful tool for counseling, and actual job offers.

Ottumwa Project. An experimental program conducted in Southeastern Iowa by the public employment service has established a pattern for opening up a wider range of nonfarm job opportunities to farmworkers, including migrants.

Prior to the project, a 12-county rural area in Iowa was served by four small local public employment offices, each responsible for a specific geographic location. The project replaced this arrangement with the establishment of a "central" office, located in Ottumwa, the economic and commuting hub of the area, and the designation of the four "satellite" or "feeder" offices, responsible to the central office. Job orders and applications taken in the feeder offices were held for a period of 24 hours and then transferred to the central office. This gave both applicant and employer access to opportunities available over a much wider geographic area, and made available to the worker, particularly, a broader spectrum of farm and non-farm job openings.

In view of the success of this project, similar programs are being launched in the ten administrative regions of the Department's Manpower Administration.

The Problem of "Commuters" in Mexican Border Areas

I am aware that this Subcommittee has taken a keen interest in the problem of commuters in the Mexican border areas. The term "commuter" is sometimes used to refer to "wetbacks" or border visitors who work illegally in the U.S. I will restrict my discussion to "green carders"--the approximately 50,000 aliens who have been legally admitted for permanent residence in the U.S. but who have chosen to maintain their domicile in Mexico while commuting to work in the U.S. on a regular basis.

Green card commuters also cross over from Canada to work in the U.S. In 1966, it was estimated that there were about 11,000 Canadian commuters. Because of their small numbers, labor standards similar to those in the United States, and stronger labor organization, Canadian commuters have less impact on the border communities than their Mexican counterparts.

The following adverse effects of the Mexican commuter system have been identified by our Department:

1. Wages are lower along the border because of the impact of the commuter.
2. Unemployment is higher in areas where commuters are present.
3. The incidence of violations of the wage and hour law is greater in the border area.

4. Collective bargaining in the border areas is hampered by the availability of commuter-workers.

The difficulties in changing the present commuter system stem from the fact that the system has been recognized and accepted administratively by the United States for over 40 years. It is now considered a right by Mexican nonresident aliens and many other border residents. The economies and the social and political makeup of the U.S. border cities have been shaped by the availability of a large pool of low-skill and relatively low-wage Mexican labor.

The Department of Labor is greatly concerned about the impact of commuter employment on the wages and working conditions of American workers. But this is an extremely complex problem that the Department of Labor alone cannot resolve since control essentially falls outside our administrative jurisdiction. The Labor Department can, and does, of course, promote more effective enforcement of its own programs.

A number of alternative solutions to this problem have been offered. However, certain basic factors should be taken into account in any solution which is eventually developed. The precipitous termination of the commuter system would result in the imposition of an undue hardship both upon the commuters and upon the U.S. border cities in which they are employed. Also, the 50,000 commuters obtained their immigrant status on the good faith assurance that the United States would not change an administrative practice of 40 years standing.

The studies that have been made conclude that if forced to choose between taking up permanent residence in the United States or surrendering their I-151 cards, an overwhelming proportion--as high as 80 or 90 percent--would move to our side of the border. They would become residents of communities which for the most part are already in some economic distress and are ill-equipped to handle unanticipated massive demands for services. If the commuters and their families are to be relocated without seriously disrupting these border communities, provision must be made to ensure the availability of basic services such as housing, education, medical care, and family assistance. Consideration should also be given to a concerted industrial development program to bolster the economy of the border areas and expand employment opportunities for all of the residents of the Southwest.

We recognize that the migrant agricultural worker is in an economically vulnerable position in the United States. As I have suggested, this condition can be ameliorated by stabilizing the migrants' employment, improving their wages and living conditions and by bringing them under the protection of our system of social legislation. Ultimately, we must cope with the problems involved in helping these individuals and their families move out of the migrant stream. This task--whether it involves the Mexican commuter or the domestic agricultural worker--will be a substantial one that demands our best efforts. Much remains to be done. In the Department of Labor, we have made a start in meeting our responsibilities in this important area of manpower policy.

Mr. WEBER. Mr. Chairman, I am pleased to make my first appearance before this subcommittee. I am acquainted with your continued efforts to improve the economic and social status of a group whose special problems rightly give rise to special concerns—the migratory farmworkers and their families.

In response to your request, the Department of Labor jointly with the Department of Agriculture, has provided the subcommittee with detailed information on the status of the migrant worker. I will not review all of the data contained in that report.

However, I would like to delineate briefly the nature of the migratory labor problem as we view it from the perspective of the Department of Labor. Within this framework, we can discuss specific problem areas and suggested policies and programs which may help to cope with these problems.

According to the most recent reports of the Department of Agriculture there are approximately 257,000 farmworkers who leave their normal place of residence to seek employment elsewhere.

Senator MONDALE. That figure is based on figures referred to you by the Department of Agriculture?

Mr. WEBER. Yes, sir.

Sometimes this work itinerary will span thousands of miles and will involve entire families. A study of migrants from south Texas shows that the families average about six and a half members.

Approximately 40 percent of this family population is composed of children below 16 years of age. Nearly all of the children suffer from educational deficiencies because of irregular schooling.

In their travels, these workers tend to follow well defined paths developed over a period of years. The largest of these migrations is the midcontinent stream. Most of the South Central States feed this stream although the largest number of migratory farmworkers originate in Texas.

It is estimated there is a pool of 100,000 migrant workers that move out of Texas each spring. The most important part of this stream travels to the Great Lakes States to harvest canning crops and to cultivate sugar beets. Another branch travels to the sugar beet and vegetable areas in the Mountain States. A third major group moves through the Southwest to the Pacific coast harvesting fruits and vegetables.

Another major pattern of migration is the movement along the east coast. The bulk of these workers come from Florida, approximately 36 percent of all migratory labor, but some originate in other South Atlantic States.

When the winter harvest of vegetables and citrus fruits in Florida is completed, they travel to North Carolina, Virginia, Maryland, Delaware, New Jersey, and New York State. Along the west coast, there is a substantial interchange of workers among California, Oregon, and Washington.

Aside from these three basic migratory patterns, there are many minor routes which form an intricate network over the country.

The intrinsically unstructured and unstable nature of the migrant labor market is central to the employment problems of the migrant worker. His employment is discontinuous, lapsing as he moves from

one harvest area to another with consequent losses in productive time. The demand for his services and therefore, his earnings are unstable—subject to the vagaries of weather and crop failures.

Working for a number of different employers in the course of a year, the nature of his living and working conditions are likely to vary significantly from job to job.

The economic problems resulting from this lack of stability in the job market for migrants are further complicated by the fact that these workers are largely from disadvantaged backgrounds. For example, nearly one-half of migrant farmworkers are members of minority groups—Mexican Americans and Negroes—with the accompanying handicaps which arise from racial discrimination and lack of adequate educational and training opportunities.

Senator MONDALE. Would you yield there? Is it your understanding that less than half of the migrants are Mexican Americans and black, and the rest are white? I know there are some Indians, but is that your understanding?

Mr. WEBER. Our data indicate that approximately one-half—

Senator MONDALE. In the migrant stream the majority are white?

Mr. WEBER. Fifty percent.

Mr. KNEBEL. According to the studies that have been made.

Senator MONDALE. Can you refer us to some of those?

Mr. KNEBEL. We can supply them for the record.

(The information subsequently supplied follows:)

ETHNIC BACKGROUND OF MIGRANT WORKERS

This estimate was developed as follows:

According to the 1969 report of the Senate Subcommittee on Migratory Labor, 25 percent of the migrants in 1960 were Mexican Americans. No later figure is available, but the proportion was assumed to be still at least that high. According to the 1968 edition of *Hired Farm Working Force*, 15 percent of the migrants were non-white. These two figures were added to a total of 40 percent who are members of minority groups.

Mr. MONDALE. Can you think of any? I have been in many migrant camps, and looked at many migrants, and a lot of those farmworkers must be using professional makeup artists to so mislead your census enumerators.

Mr. WEBER. There are various migrant streams.

Mr. MONDALE. I recognize that, but I have been in the east coast, west coast, and central States streams. There may be some others, but any data you have on that 50 percent figure, I would like to see, because that is not my impression.

Mr. WEBER. As you know, in a way Senator the ethnic and racial composition of harvest laborers is varied over the years and sort of recapitulates the history of minority groups. Out in California it used to be Chinese and Japanese. Now there is a large component of Mexican-Americans and blacks and as educational opportunities and employment opportunities open elsewhere you would find some movement out.

As I reviewed some of the Department of Agriculture data there was some indication that over the last 5 years there has been a significant

drop in proportion of Negroes for example in the migratory labor force.

Mr. MONDALE. I think that is correct. I do not have any argument with that fact. It is the ethnic and racial figures suggested in your statement that I have some doubts about. I think one of the reasons that you are finding a diminished percentage of blacks is that the Mexican-American in the labor force who comes across the border into Texas and California is constantly increasing the ratio of that minority group as against blacks.

Mr. WEBER. That is correct.

The average yearly income of migrant workers both farm and non-farm was less than \$1,800 in 1969.

Mr. MONDALE. What is the basis of that figure?

Mr. WEBER. Surveys taken by the Department of Agriculture.

Senator MONDALE. Those are Agriculture Department figures?

Mr. WEBER. Yes, sir.

Senator MONDALE. Are those the same Census Bureau figures we talked about before?

Mr. WEBER. Yes, sir.

Senator MONDALE. How accurate are they do you think?

Mr. WEBER. The basic report is the "Hired Farm Working Force" on an annual basis and is prepared by Economic Research Service, of the Department of Agriculture. Standards of accuracy in terms of standard deviation can best be provided by DOA.

Senator MONDALE. Of course, you were here when we went over that with them. In their own literature, hidden on a back page, they say they need more statistics to "permit adequate detailed analysis of sub-groups among small segments of the farm workforce, such as female heads of households or migrants." In other words, they more or less admit that the data is not adequate for migrants. I am worried about this because we have been using these figures just like you have over the years, and increasingly, I wonder whether we even know what we are talking about. I am not being critical of the Department, I just think this is a problem we all face together.

Mr. WEBER. I think there are problems of data collection when you deal with such a group. This is compounded by the fact that these data are collected on an annual basis and depend heavily on recall of the interviewee.

Senator MONDALE. The available statistics do rely on recall, do they not?

Mr. WEBER. That is correct. The way to really get at it is by tracking them on social security data. That is what we try to do with respect to MDT trainees when we want to find out how well they do when they have completed training.

Senator MONDALE. I seriously question whether the social security information collected and reported among migrants is reliable. I have been at those shapeup pools at the Texas border crossing points, and I have talked to a lot of farmworkers that have social security deducted. Sometimes as much as a quarter of their pay was deducted. Sometimes the crew leader just takes it out of wages due. Illegals do not want social security deducted because they do not want to be traced.

I wonder about reliance on Social Security data in this pathetic way of American life?

Mr. WEBER. There would be sources of error in that but it would catch those farm employees who work for larger employers who are covered by social security.

Senator MONDALE. When you get to the point where an employer treats the farmworker fairly, then I think that is correct. It is your best guess that the average individual income of migrant workers from all sources is \$1,800 a year, or just about half of the poverty line for a family of four.

How sure are you that income figures reflect either individual earnings or collective earnings of a family? A lot of these families go out as a team.

Mr. WEBER. That could be a possible problem in the data collection.

Senator MONDALE. Let me point this up because I think it is a problem. I have talked to a lot of migrants and asked them how much they earned last year. They have a recall problem. They don't keep records. But if you get a response of \$2,000 or \$2,200, you have a wealthy migrant, and then you repeat, "You mean you earned \$2,200?"

He says, "No, the family." That meant his wife and nine kids. I wonder if Federal officials have checked that out?

Mr. WEBER. To do justice to the full range of problems, there is a question of income which is not calculated. That is the housing that they get which in many instances is not of an elegant nature but is part of a total income stream or additional services that they require.

Obviously, that is not calculated either. We are essentially talking about money income. A study of BLS reported data indicate that around 30 percent of the total farm income of migratory labor in 1966 came from nonfarm employment so that is an additional complicating factor.

Senator MONDALE. That figure is based on all income sources, is it not?

Mr. WEBER. That is correct.

Senator MONDALE. You may proceed.

Mr. WEBER. The consequences of this marginal economic status impinge upon various aspects of the migrant worker's present conditions of life and future prospects. Frequently, these workers and their families are undernourished. They receive inadequate medical care.

When they can no longer work in their customary occupation they will almost certainly become the objects of public relief some place in the Nation. And, permitting their children to grow up without an education, or with an education which is not geared to the needs of the future, we are passing on a compounded debt of unemployment costs to the next generation.

These problems relate to the responsibilities of various agencies. I will give attention to those problem areas within the particular competence of the Department of Labor and which we feel merit continuing attention and constructive action.

These include: developing stability of employment; the maintenance of wage, working, and living standards; the extension of social

legislation coverage; and easing the transition from migrant status to the industrial sector.

Finally, the special problems arising from the pattern of Mexicans commuting across the border to work in the United States merit attention.

Although the use of the migrant labor is declining—having decreased from approximately 400,000 migrant farmworkers in 1960 to roughly 250,000 at present—migrant workers will be a significant segment of the farm labor force for some time. The work of migrants is by its very nature seasonal and unstable, thus, we must continue to provide information and assistance in scheduling jobs to give these workers as much stable annual employment as possible.

This is no easy task in view of weather and the other uncertainties that affect the farm labor market. In addition, many migrants, especially the middle aged and elderly, may not be able or willing to train for other occupations.

Senator MONDALE. Do you have figures on that breakdown of migrants by age category?

Mr. WEBER. Yes, sir, we do. They were, as I recall, submitted in conjunction with DOA submission and the interesting fact they show as I recall was that on balance the farm labor migratory force is getting younger.

There is a much higher proportion under 25 now than there was 10 years ago. The data are in the reports that they have provided to you.

Federal-State employment service system helps to achieve stability in the employment of migrants through the annual worker plan. For those assisted under the plan, both family groups and crews, comprehensive itineraries are planned weeks ahead of the work season.

After job orders are forwarded by States with manpower needs, interviews are conducted with crew leaders and migrant family heads. They are provided with specific information about employment opportunities, housing, wage rates, and other job conditions in demand States.

These interviews provide the basis for the agricultural worker schedule. This arrangement includes the names of the crew or family leader, the composition of the crew, and transportation and housing requirements.

The schedule also shows the names and addresses of all farm employers from whom the crew will be working during the active season. The plan helps to decrease time lost between jobs for migrant workers while assuring employers a dependable work force. In 1968, over 106,000 interstate migrant workers were assisted under the annual worker plan.

Senator MONDALE. Do you have figures on the numbers of intrastate migrants?

Mr. WEBER. We have some data on that that are derived from local reports that are generated by State employment service.

Senator MONDALE. The 106,000 figure is interstate?

Mr. WEBER. That is correct.

Senator MONDALE. Would you supply figures you have on intrastate for us?

(The information subsequently supplied follows:)

NUMBER OF INTRASTATE MIGRANTS

There is no unduplicated count of the number of individual intrastate migrants. However, according to reports generated by the State employment service agencies, employment of intrastate migrants averaged 37,000 in 1969 and peak employment was 64,500.

Mr. WEBER. I might note in your discussion with Mr. Paarlberg you asked about what methods are used to convey information concerning the impact of mechanization on changing of patterns of migratory movements and so forth, in particular locations. The series of interviews associated with establishment of the agricultural workers schedule would be one very pragmatic vehicle for doing this.

For example, if it becomes a consideration that cherries in Michigan are now subject to machine harvest and this would reduce the time between beet sugar and blueberries, this information would be conveyed in conjunction with drawing up that plan.

Now, this is not as if the State employment service people give them long-term projections, but obviously there is accumulation of specific information on migratory movements.

Senator MONDALE. In other words, it is your view that the local farm labor offices, of which there are about 2,000—

Mr. WEBER. 2,000 employees. There are 2,400 employment service offices and not all of them have farm people.

Senator MONDALE. It is these government personnel who work with the farmworkers, who understand their problems, and try to get farmworkers around to the right place, at the right time, for maximum advantage to the farmer and the worker. How good a job are they doing?

Mr. WEBER. The system has been in effect since 1954 and in terms of it being debugged and getting procedures and flow of orders and working up a schedule on a timely basis, I think they are doing a good job. One of the problems, of course, is that it only has partial coverage of the migratory labor force.

Many of the migrants go independently with crew leaders who have their own source of information. Others get in a car or truck and move on their own. We very actively encourage employers particularly—and that is the key factor, getting job orders into the system—to use this system.

This is particularly significant, also, as part of our efforts to reduce dependence on a sole source of farm labor. For example, in New Jersey, tomato growers and strawberry growers have had a reliance on Puerto Ricans. When the weather is bad in Puerto Rico, or the Puerto Rican government indicates their unwillingness to fully participate, this creates shortages in New Jersey.

We have said the way you do that is by not putting all your eggs in one basket but participating in an annual worker plan. This will help both demand and supply.

Senator MONDALE. There are lawsuits in California which charge that the Farm Labor Service is not really seeking a balance between the interests of the worker and the farmer. It is alleged that the better growers are able to get their own labor, and that the Farm Labor Service gets workers for farmers with less desirable employment situations.

Would you respond to that?

Mr. WEBER. California is now in its initial stages of litigation. I am not sure if it would be appropriate for me to make specific comments on that, other than to say Secretary Shultz was presented with a petition from MAPA, which is the group there listing various shortcomings in operation of California State Employment Service.

We looked them over and as a matter of general policy we tried to be responsive to all constructive criticisms. We entered into discussion with California Employment Service and encouraged them to enter into discussions with us and the California Rural Legal Assistance group, which is carrying the suit.

They involved questions such as prohibition of use of pesticides, poisoning. We think we have some constructive suggestions, but in terms of the general point you raised, Senator, I would not doubt that in specific instances there are local offices and local office personnel, of the 2,000, that fall one way or the other.

As a sort of an index of our general willingness and commitment to establish equitable and compassionate standards, I would bring to your attention the introduction of housing standards by the Department of Labor as a condition for using the interstate recruitment system and services of farm labor offices.

As a consequence of instituting these standards, and we hope adhering to them, we have lost a lot of customers. As I say, later in my testimony, we regret this loss, but those are the standards that we have developed and they were developed over an 8-year period and we are trying to do a job.

In terms of specific antidotes or events, we certainly would try and respond to them on an ad hoc basis as we have in California.

Senator MONDALE. Are farm labor offices funded 100 percent by Federal funds, but managed through State employment services, pursuant to guidelines established by the Federal Government?

Mr. WEBER. That is correct.

Senator MONDALE. Do you know how many of the personnel are equipped with the skills that it would appear are needed to work sensitively with Mexican-Americans?

Mr. WEBER. I do not have that specific information. I know this problem has arisen in California. It is one of the specific requests of MAPA. It is my understanding that there is a considerable number of bilingual interviewers and placement officers in the farm offices of California State Employment Service. We will provide that number for the record. The figure 50 or so comes to mind, but I do not want to stand by that.

(The information referred to, subsequently supplied, follows:)

According to the California Farm Labor Service, it has 146 employees who speak both English and Spanish fluently. In addition, most seasonal assistants are bilingual.

Mr. WEBER. In addition, Senator, I think it is important to note that 2 weeks ago the Department promulgated a minority staffing plan for the State employment service.

Senator MONDALE. Do you have that now?

Mr. WEBER. Yes, sir.

Senator MONDALE. What does that require?

Mr. WEBER. It requires that each local office of Federal-State employment service identify the ethnic composition of the group served by that office. Our general argument is just as you are inferring, that you really cannot do a good job of placing people and counseling them, unless the people who are in the office are responsive to the cultural pattern and life style and particular needs of the clientele.

We are asking each of the State agencies to set goals and timetables with respect to the hiring of minority personnel in their State employment service offices, and that is just getting off the ground.

Senator MONDALE. Is this a new requirement?

Mr. WEBER. Yes, sir.

Senator MONDALE. I assume that is based on the feeling that at this point there is some need for reform?

Mr. WEBER. Yes, sir; it is very spotty. Actually, if you look at the West and the Northeast, the part of the country you will find a good representation of minority groups, whether in the right offices is another question.

We have not gotten that specific. I might note that, as is not often the case in such matters, this is something we did not have to shove down the throats of the State employment service. We brought it up with the Interstate Conference of Employment Security Agencies. The initiative was ours. We discussed it with them and their executive committee approved and supported it unanimously.

Senator MONDALE. Now, in the course of this requirement, did you not develop data on minority employment now in these offices?

Mr. WEBER. Yes, sir; there are data and we have had a series of annual reports, I guess, since 1966, but they generally deal with the State agency in its entirety.

Senator MONDALE. In other words, it is data, but not the kind of data you want?

Mr. WEBER. It is data of the first order of magnitude.

Senator MONDALE. But it does not tell you whether you have Mexican-Americans working with Mexican-Americans?

Mr. WEBER. Whether we have Mexican-Americans in the Modesto office?

Senator MONDALE. It does not tell you that?

Mr. WEBER. We do not know that at the national level. That data obviously was obtained as part of the process of data collection.

Senator MONDALE. When does this new regulation go into effect?

Mr. WEBER. The guideline was issued 2 weeks ago on the policy statement. We are now in the process of issuing guidelines for implementation.

Senator MONDALE. Could we have a copy of those for the record?

Mr. WEBER. Yes, sir; indeed.

(The information subsequently supplied follows:)

U.S. DEPARTMENT OF LABOR
Manpower Administration
Washington, D.C. 20210

March 25, 1970

GENERAL ADMINISTRATION LETTER NO. 1367

TO: ALL STATE EMPLOYMENT SECURITY AGENCIES

SUBJECT: Minority Group Employment in State Agencies

PURPOSE: To provide policy guidance on minority group staffing and procedures for incorporation of Minority Staffing Plans in the Plan of Service.

Adequate minority representation in the internal staffing of manpower development, job placement, and unemployment insurance operations in all States form a key aspect of responsive program administration. These considerations reinforce the Department of Labor's general concern with the principle and practice of equal employment opportunity. Therefore, the Manpower Administration strongly endorses a positive program of equal employment opportunity in the internal staffing of all State Employment Security agencies.

BACKGROUND:

A preliminary analysis of data on minority group staffing in State Employment Security agencies over the period 1967-1969 indicates that the majority have made substantial progress in establishing equal opportunity in the staffing of their own agencies. Some of the other State Employment Security agencies lag far behind. In a few, the figures on minority staffing are so low as to raise a question of compliance with the January 1963 Amendment to the Federal Merit System Standards.

The need for prompt effective action on this matter stems not only from the requirements of the Federal Merit System Standards, but from the standpoint of program effectiveness as well. If the Employment Security agency is to fulfill successfully its role as the provider of comprehensive manpower services, the agency staff must be a model of equal opportunity to the residents of the community it serves. The agency must also be a model to employers whom it encourages to practice equal opportunity and cooperate in the development of jobs for the hard-to-employ. If a local office serving the minority community lacks a representative staff, it will also lack credibility in the community and among employers. It will thus be less effective regardless of the degree of technical competence

which the staff may possess. Moreover, with the emergence of employability development as a major component of manpower services, it has become of primary importance that staff, both professional and pre-professional, have an intimate knowledge of the community, the life styles, and the attitudes of disadvantaged clients with whom they must work on a personal basis. The ability to gain the confidence of and relate to disadvantaged minority clients must be regarded as a fundamental qualification for many public contact jobs in both employment service and unemployment insurance operations.

STATEMENT OF POLICY:

In view of these considerations, the following has been adopted to supplement previous issuances urging increased minority group staffing:

It is the policy of the Manpower Administration that the State Employment Security agencies should employ such numbers of workers from minority groups as will assure that all agencies and offices can operate effectively in responding to the manpower and employment needs of the community being served.

It is emphasized that the above policy is not intended to endorse or condone, in any way, previously discredited segregation policies (e.g., "blacks serving blacks only" or "whites serving whites only") nor should the agencies' commitment to this policy be used to discriminate against a qualified applicant.

IMPLEMENTATION:

The designated minority groups have been previously defined in the reporting instructions for equal employment staffing surveys. State agencies should review the level of minority group staffing in each local employment service and unemployment insurance office taking into account the minority population of the community to be served by the local ES office as well as the actual numbers of minorities utilizing those facilities. However, situations wherein the entire staff of any office solely represents one racial or ethnic group should be avoided. Notwithstanding the racial composition of the community served by an individual office, steps should be taken to insure a representation of other racial or ethnic groups on the office staff. It will be convenient to use data collected for the new minority staffing report, the instructions for which were issued via GAL 1348. This report required data as of December 31, 1969, to be submitted before February 15, 1970.

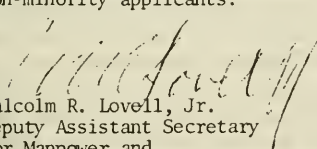
Detailed plans of action for making necessary improvements in minority staffing and upgrading will be required as part of the Plan of Service. Each local office shall provide information on minority group proportions among current staff and in the community which it serves, and shall set goals for achieving the Policy expressed above. The State administrative

office shall summarize local office reports and formulate plans for (1) making any necessary changes in agency personnel policies and practices, including job restructuring; (2) working in cooperation with the merit system agency to assure that their policies and practices ensure full equality of opportunity; and (3) dealing with anticipated problems. Detailed instructions and guidelines for incorporation of these elements in the Plans of Service will be issued shortly.

Upgrading of current minority staff is an important element of the total effort. In almost all State agencies, minorities are under-represented in the higher level jobs. It is expected that this inequity, which is the result of past practices and deficiencies, will be eliminated in part by the promotion of currently employed minority staff. In this connection, GAL 1336 issued November 14, 1969, provides guidelines for upgrading preprofessional staff to the professional level.

Additional plans and efforts must be made to assure that the minority group staffing policy will become a reality in all States. Such actions should include a review and revision of the Federal Merit System Standards and corresponding State regulations with a view to making such procedures and policies more responsive to program needs and the public being served.

In reviewing the progress being made by State agencies toward achieving the objectives of this General Administration Letter, Regional Manpower Administrators will also review: (1) the degree of minority employment and general availability of minorities having requisite skills for employment with the local State Employment Security offices and the efforts made by these offices to qualify minority individuals through specialized training programs; (2) the availability of minority employees who could be upgraded or promoted within the local State Employment Security offices and the training which has been made available to achieve this purpose; (3) a comparison of the rate of rejection of minority applicants with non-minority applicants.



Malcolm R. Lovell, Jr.
Deputy Assistant Secretary
for Manpower and
Manpower Administrator

Mr. WEBER. What we are doing is trying to link it to the so-called plan of service, because this is the planning process in the State employment service. They give us a plan of service which provides the basis for funding them on an annual basis. The review of the plan of service at the national level takes place about now, which is why we issue it at this time and why we are accelerating our implementation of it.

The instability of migrants is the second major problem area which arises in the nature of this labor market which involves maintenance of wage, working, and living standards.

The instability of migrant employment has clearly contributed to the problems of low wages and deficient working conditions. A general surplus of agricultural labor in an inherently inefficient labor market has resulted in traditionally poor wages and conditions of employment for migrants.

This problem has been compounded by the general absence of worker organization in the agricultural sector and the lack of full coverage under the wage-hour law.

We have sought to influence the economic and social conditions of the migrant through the Federal-State employment service system. As noted previously, we assist employers by recruiting workers through the interstate clearance system of the Federal-State employment service.

However, we require that employers agree to meet the minimal standards we have established relating to wages, pay for transportation, and housing. There has been considerable controversy associated with the higher housing standards that the Department of Labor instituted in 1968.

The public employment service has lost the business of some farm employers because of our insistence on these standards. We regret this loss. Nevertheless, we feel that if our facilities are used to bring large numbers of seasonally employed workers into a community, we have an obligation to see that provisions have been made for housing them and that the housing meets decent health and safety standards. Such standards serve the interests of both the worker and the community.

Senator MONDALE. What other conditions do you impose upon employers who use your service?

Mr. WEBER. Transportation. I do have a copy of the Secretary's regulations dealing with use of the system. We will provide that for the record.

Senator MONDALE. We will put it in the record at this point.

(The information subsequently supplied follows:)

Interstate Recruitment of Agricultural Workers

No order for recruitment of domestic agricultural workers shall be placed into interstate clearance unless:

1. The State agency has established, pursuant to recruitment efforts made in accordance with regulations, policies and procedures of the Manpower Administration, that domestic agricultural workers are not available locally or within the State.
2. The State agency has compiled and examined data on the estimated crop acreage, yield, and other production factors in accordance with procedures established by the Manpower Administration to assure the validity of need and the minimum number of agricultural workers required.
3. The State agency has ascertained that wages offered are not less than the wages prevailing in the area of employment among similarly employed domestic agricultural workers recruited within the State and not less than those prevailing in the area of employment among similarly employed domestic agricultural workers recruited outside the State.
4. The State agency has ascertained that housing and facilities which comply with the standards contained in Part 620 of Title 20 of the Code of Federal Regulations are available.
5. The State agency has ascertained that the employer has offered to provide or pay for transportation for domestic agricultural workers (1) at terms not less favorable to the workers than those prevailing among the domestic agricultural workers in the area of employment recruited from the area of supply; or (2) in the absence of such prevailing practice in the area of employment, at terms not less favorable to the workers than those which prevail among the domestic agricultural workers recruited by out-of-State employers who recruit domestic agricultural workers from the area of supply, as determined by the State agency in the State requested to supply the workers.
6. The State agency has ascertained that other terms and conditions of employment offered are not less favorable than those prevailing in the area of employment for domestic agricultural workers for similar work.

Senator MONDALE. Do you tie in minimum wage laws? Do you say that they must be complied with?

Mr. KNEBEL. If they are covered. They basically have to pay the prevailing wage that is determined as a result of the survey in the area of employment.

Coverage under minimum wage provisions of the FLSA is implemented by the Wage and Hour Division of the Department of Labor.

Senator MONDALE. Who determines the prevailing wage?

Mr. KNEBEL. Our local office people conduct prevailing wage surveys. There is some verification with workers as well. This is done during the previous crop season.

Senator MONDALE. What about minimum wage? Suppose there is a farmer that is not complying with the minimum wage laws and he is a covered employer. Does the Employment Service require compliance with that?

Mr. KNEBEL. If the local office man had reason to believe that an employer was covered by the Federal minimum wage, or the State minimum wage for that matter, referrals would not be made. This would be considered a substandard job offer. However, I think it is not always possible for the individual local office man to determine whether a farmer is in fact covered by the wage and hour law.

Mr. WEBER. If there is a basis for believing that there is a violation it would be referred to the Wage and Hour Division which would dispatch an investigator to look at it.

Senator MONDALE. Do you have surveys, for example, concerning housing requirements? Do you go out and survey housing to determine whether it is adequate?

Mr. WEBER. We have these standards. This arises in two ways. We do not have sufficient staff to go out and examine housing in fine detail as prescribed by regulation—for example, that there be 60 square feet of living space for each employee using the facility.

We try and do the best we can and I would concede that in some instances this is probably inadequate. We also enter into contracts or arrangements with State agencies whereby we hope they will enforce these laws.

As in all such administrative arrangements, there is sometimes a slip between the cup and the lip and we want to be sensitive to that.

Senator MONDALE. How close to adequate are you in being able to enforce this regulation, would you say?

Mr. WEBER. I would not venture a guess other than to make the broad statement that if it was a forced choice to answer "Yes" or "No," the answer is probably "No."

Senator MONDALE. How large is the fall-off in employer use of service as a result of imposing this housing standard?

Mr. WEBER. This is very difficult to estimate because as the data indicates there has been a falloff in the use of migratory labor in general. The two factors would be intertwined; however, we are aware of specific cases where this has happened.

Senator MONDALE. Proceed.

Mr. WEBER. The third area of interest to the Labor Department is extension of coverage under social legislation. As a further index

of their peripheral status, agricultural workers generally have been excluded from the benefits of the Nation's social legislation.

An important step forward was taken with the passage of the 1966 amendments to the Fair Labor Standards Act which brought employees of large farms under the protection of the minimum wage. The Department of Labor has made two important proposals that would extend social legislation already applicable to industrial workers to the agricultural labor force as well.

The Department supports the extension of unemployment insurance coverage to farmworkers, including migrants. We were, therefore, pleased to note that the Senate last week included migrant workers in extending UI coverage to employees of the Nation's larger farms. We hope that these coverage provisions will be retained by the conference committee.

The bill passed by the Senate provides coverage for only a limited proportion of the farm labor force, but involves a substantial number of workers. We estimate that it will bring under UI coverage, approximately 275,000 workers or 22 percent of all farm jobs. Of these, roughly 18,000 will be employees of crew leaders, for example, migrant workers.

Senator MONDALE. Our feeling was that if crew leaders and their employees were exempted, that there would, in fact, be no coverage of farmworkers at all. Would that be accurate?

Mr. WEBER. We viewed those proceedings with considerable favor. The committee reported out a bill which included coverage of those farmers who have eight or more employees in 26 weeks which would cover approximately 273,000 employees. There was a crew-leader exemption. This presumably was based on administrative reasons which we did not think were insurmountable.

Presently, our best estimate is if the crew leaders' exemption was kept in it would exclude immediately 18,000 but beyond that we would quite agree that what you did really have is a segmented market situation, so to speak.

Senator MONDALE. If we had not won our effort to remove the exemption, there would be an incentive to establish a crew-leader relationship.

Senator SCHWEIKER. The way the bill and the amendment is now constituted, what percent of migrant workers are now covered? In other words, how many migrants are we missing, even with this? Could you give me a rough guess—estimate? Is this 90 percent of migrants, or 80 percent, or 95 percent?

Mr. WEBER. It is difficult to calculate.

Senator SCHWEIKER. It is only farms of less than eight that we are really missing at this point?

Mr. WEBER. That is correct.

Senator SCHWEIKER. Are there many migratory workers working on farms of less than eight people?

Mr. WEBER. There are not, but the key provision in this, Senator Schweiker, is requiring the farm to employ eight or more for 26 weeks. To be excluded from the coverage would be a farmer who brings on

200 harvest workers for 3 weeks—he had not been covered and then drops down to one or two.

Senator SCHWEIKER. What, again, is the time frame?

Mr. WEBER. Twenty-six weeks.

Senator SCHWEIKER. So, if any migrant group of any size comes on a farm for less than 26 weeks, and the rest of the year the farm employs less than 8 persons, that farm is not covered?

Mr. WEBER. That is correct.

Senator SCHWEIKER. Is that right?

Mr. WEBER. That is correct.

Senator SCHWEIKER. So, this is where our present loophole would be?

Mr. WEBER. We are sensitive to that. There is considerable background, but this is the first time that farm coverage was ever reported out, either on the Senate or House side with respect to unemployment insurance.

The arguments that are made against it are that the experience is so highly variable for farm employers that they would have a very high-cost benefit ratio. That is, they would be so-called deficit employers who would pay far less in their tax than is paid out to their employees in unemployment insurance benefits.

Senator SCHWEIKER. I am not sure on the 26 weeks. Does that mean working on that particular farm for 26 weeks?

Mr. WEBER. That is right. Then, the employer is covered with respect to payment of the unemployment tax. And employees who work for those covered employers then derive credits from that employment period.

Senator SCHWEIKER. Well, what is a normal growing season? What would be an average growing or harvesting season in terms of weeks?

Mr. WEBER. It would be a matter of weeks but here is the way harvest migratory workers would be covered: Say it is a large farm in California, which on a year-round basis employs 10 workers. It employs those 10 workers for 36 or 40 weeks. Then, along comes a period when it brings in 200 or 300 harvest workers for 2 or 3 weeks.

Those harvest workers would then be covered or would obtain credits for the collection of unemployment insurance by virtue of the fact that that employer was covered because he had more than eight employees for more than 26 weeks.

Senator SCHWEIKER. So, it is not quite as bad as it sounds, of course?

Mr. WEBER. Our figures are not fine on this. We estimate most of the large farms in California will be covered by this provision. To the extent that we know that California is a big user of migratory labor, many of the migratory workers would then accumulate credits during the periods of their employment as they move up and down the valleys.

Senator SCHWEIKER. So, if any farm keeps more than eight workers there for 26 weeks, everybody that works on that farm is covered?

Mr. WEBER. That is correct. That is the way it works. An employee gets covered by having an employer in the first instance being covered and that is determined by how many stable employees he has, so to speak. Our intention, and obviously this reflected pulling and hauling

in different directions was a result of the original administration proposal, four employees in 20 weeks.

We tried to be responsive to the argument that we really wanted to get the large farmers and also have a basis for determining what the true cost experience would be when you covered agricultural employees, but it is a breakthrough and it should not be underestimated.

Senator MONDALE. You estimate that 22 percent of all farmworkers would be covered. I assume that is migrant workers; is that correct?

Mr. WEBER. No. Some of them would be part of a stable labor force.

Senator MONDALE. Are you confident of that 22 percent, or is that just a guess?

Mr. WEBER. I have become a little more modest in terms of assessing validity of statistics. We think that is a pretty good statistic.

Senator MONDALE. What about crew leaders? Is that based on registered crew leaders?

Mr. WEBER. Yes, sir.

Senator MONDALE. And it is well known that most crew leaders do not register?

Mr. WEBER. Well, some don't, I guess.

Senator MONDALE. We have a figure from your Department that of the approximate number of 12,000 crew leaders, only 2,000 register?

Mr. WEBER. I am not familiar in detail with the regulations associated with that legislation. I suspect that not all of them have to register under the law.

Mr. KNEBEL. That is right.

Senator MONDALE. The Department of Labor estimates between 8,000 and 12,000 crew leaders not registered under the act.

Mr. KNEBEL. These crew leaders that are working in the State of California, for example, would be covered under UI legislation.

Senator MONDALE. As it is now written. You realize that I am just trying to figure out how accurate that 18,000 employee figure is.

Mr. WEBER. You have workers crossing State lines, so it is possible for a crew leader just working in California to be exempt from registration requirements.

Senator MONDALE. The 18,000 figure is not a very useful figure, is it?

Mr. WEBER. I think the real significance of that was the point you raised, Senator, it created an incentive on the part of employers to resort to crew leaders.

Senator MONDALE. Proceed.

Mr. WEBER. Thank you.

We feel that these new provisions, if enacted, will provide a significant beginning in bringing the benefits of unemployment insurance coverage to the Nation's agricultural work force. We hope to study closely the impact of any extension of UI coverage to migrant workers to determine: (1) the extent of increased costs to the employer; (2) problems of administration, and (3) the extent to which migrant workers actually claim benefits.

On the basis of such research, we will be able to strengthen our administration of these new provisions and to inform the Congress of the feasibility of broadening these provisions of the unemployment insurance law.

Last May, Secretary Shultz, in his testimony before the Senate Labor Subcommittee, endorsed the right of farmworkers to organize unions and to designate representatives to negotiate the terms and conditions of their employment.

In view of the unique characteristics of work in agriculture, we have proposed the establishment of a special board to deal with labor-management problems in the industry and have suggested a mechanism for settling strikes which occur during the harvest season, with their potential for great damage to the farmer.

The problem of affording protection against strikes at harvest times while preserving the spirit of free collective bargaining is a difficult one, and we do not believe it can be solved simply by extending the National Labor Relations Act to agriculture.

Evidence indicates that the system of migratory labor in agriculture is gradually phasing out as a major labor market activity. Each year, the number of migrants decreases as the number of job opportunities dwindles. Occasionally, a major technological breakthrough, like the cotton harvester, eliminates jobs in wholesale lots.

More typically, the process has been one of erosion, with new production methods being perfected and adopted over time.

If the transition to a settled life can be made successfully, not many people will mourn the ending of migrancy. The social and political institutions of our society are designed to serve a stable population and have not been sufficiently responsive to the special problems of agricultural migrants.

Migrants must be afforded an opportunity to move out of the migrant stream, to sink roots in a community where sufficient jobs are available, and to obtain the services that will enable them to make a transition to other employment without bearing excessive personal costs.

The process of transition promises to be troubled, however, for the migrants, for the farmers who employ them, and for the public agencies concerned about their welfare. Migrants generally lack the education, training and related prerequisites for making an easy transition to the industrial sector. The Labor Department will do its share to minimize the social and economic costs of this transition.

Under the institutional training provisions of the MDTA, an estimated 20 percent (some 200,000) of all trainees from 1963 to 1968 were in rural areas. The Neighborhood Youth Corps has served more than one-half million rural youth. These enrollees include migrants whose training and work experience under these programs have taken them out of the migrant stream.

Senator MONDALE. Do you have an estimate of the number of migrants included within MDTA programs?

Mr. WEBER. No, sir; this is not included in normal reporting form. We do have an indication of whether the enrollees are rural or urban.

Senator MONDALE. Do you have a guess?

Mr. WEBER. I would have to guess realistically it is probably low, obviously because of the nature of the process, but on the other hand, in Michigan, for example, or in Texas, in other words, at the sending

points and at the receiving points, or the termination points where the migrants are likely to settle for some period of time, that creates a situation where you can deliver services.

As I will indicate, we do have an ambitious project in this area in Texas. We have instituted projects in Michigan and Wisconsin. I think it should also be noted, Senator, that we have 13 rural concentrated employment programs. Minnesota, Arkansas, Mississippi, and undoubtedly these touch on the constituency that you would normally associate with migrant labor.

Senator MONDALE. Once again, I assume the CEPS do not collect data, either, which includes the number of migrants?

Mr. WEBER. No, just in special survey, but if you want a general figure, we would not be able to provide it at this time.

Senator MONDALE. If you do come across figures like that, we would appreciate your supplying them.

Mr. WEBER. We have rather severe reporting problems with respect to normal data. We collect the expected demographic data, race, sex, age preference, welfare status, and although this is an important figure, it is sort of another indication of how migrant labor is in a general category, so institutional arrangement is not sensitive to pick up data that would sensitize you to the problems.

I would like to mention three special projects which point the way to our future activities in this area. An ongoing experimental, demonstration program is focusing the attention and resources of 10 State employment security agencies on the problems of approximately 750 predominantly Mexican-American farm migrant families.

The families follow the migrant stream from Texas to the North Central and Northwestern States for agricultural work. Within a few years, mechanization probably will force many of these individuals into the ranks of the unemployed unless they are prepared for other occupations by proper training and supporting services. The Texas Employment Commission, as well as nine agencies in the "receiver" States, are working with the migrant families to help prepare them for the anticipated changes. They are providing MDTA occupational training and basic education to these workers and extending relocation assistance to enable their families to move to other States.

Senator MONDALE. Are you encouraged by that project? You have an evaluation by Abt Associates and others that was not very encouraging. We will include an abstract of that report at this point in the record.

(The material referred to follows:)

AN ASSESSMENT OF THE
EXPERIMENTAL AND DEMONSTRATION INTERSTATE PROGRAM
FOR SOUTH TEXAS MIGRANTS

submitted to:
Manpower Administration
U.S. Department of Labor
14th and Constitution Avenue, N.W.
Washington, D.C.
December 1, 1969

prepared by:
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Cambridge, Massachusetts 02138

This is an assessment of an experimental and demonstration manpower project under a contract with the Manpower Administration, U.S. Department of Labor, under the authority of the Manpower Development and Training Act. Organizations undertaking such projects under Government sponsorship are encouraged to express their own judgement freely. Therefore, points of view or opinions stated in this document do not necessarily represent the official position or policy of the Department of Labor.

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PREFACE

This assessment of the Experimental and Demonstration Program for South Texas Migrants was carried out by Abt Associates, Inc. under contract to the Manpower Administration of the U.S. Department of Labor during the period from May through November of 1969.

The project research effort was directed by Mr. John R. Hall. Senior scientists for the effort were Mr. Richard Anderson and Mr. Peter S. Miller. The work of Mr. James Meer and Mr. Richard Fleming was vital to the successful completion of the project. Major contributions were also made by Mr. Neil Webre, Mr. Glenn Devine, Mr. Ken Carlson, and Mr. Richard Coplon.

The staff members involved wish to express their sincere appreciation to Mr. Aaron Bodin of the Office of Special Manpower Programs and Mr. Willis Sloan, Director of the Office of Rural Manpower Services of the Department of Labor. We also extend our thanks to the members of the E and D Project Staff, staff of other agencies, and migrant workers, without whose assistance and cooperation this report would not have been possible.

ABSTRACT

The Experimental and Demonstration Interstate Program for South Texas Migrants was run by the U. S. Department of Labor Rural Manpower Service in conjunction with Texas and nine Northern state employment services. The Program singled out two basic areas of concern. First, a program of employability and supportive services was needed for those migrant families who, because of diminishing job opportunities due to mechanization of agriculture, wish to leave the migrant stream. Second, a wide range of supportive services was needed by migrant families who choose to continue to follow the migrant stream each year. Given these needs, the Program's overall purpose was to "develop and determine the feasibility and value of a coordinated interstate program of multi-agency resources" for Mexican-American migrant farm workers. This goal led to the identification of four basic program objectives:

1. to demonstrate that a coordinated network of state employment services can provide the communications framework necessary for serving a migratory population;
2. to provide or arrange for provision of needed supportive services to migrants both during their Northern migrations and their winter sojourns in South Texas;
3. to provide the opportunity for upward job mobility on the part of migrants; and
4. to provide necessary assistance to enable those migrants who wish to do so to settle out of the migrant stream.

During its first year of operation, the Texas E and D Project made significant progress in many areas, although results in terms of the above objectives appeared limited. The program evolved from concept to a full-scale ten-state operating program with basic procedures and trained staff in somewhat less than eight months. It heralded a new concept for many Employment Services--that of arranging for efforts to meet a wider range of employability and related supportive service needs. Although this approach was not universally implemented, it was at least presented in a working form to many individuals who had not seen it in operation before. The program also increased the ability of employment services to operate under such a concept by providing relevant experience to a number of employment service staff.

The E and D Program also had an impact on the communities in which it operated. It precipitated increased awareness of migrant needs on the part of other public and private agencies, as well as the community at large. In many cases, the program made important first steps toward more effective coordination among migrant-serving agencies at the local, state and federal levels. The program also documented the present severe shortage of necessary services for migrants and the need for increased services directed toward that special population.

In terms of achieving its end objectives, however, the program had substantial difficulties. Only 54% of the 794 families chosen as a pre-designated sample were ever contacted as they migrated to Northern states. Lack of readily available services and the time required to contact dispersed migrants resulted in an extremely costly rate per service delivery arranged during this first operation. Sample families received an average of one service per family in Northern states, while 1.4 services were arranged per family in Texas. As of October 1, 1969, a date short of project completion date, the Program had placed eight migrants in non-agricultural jobs in Northern states, and 49 in Texas. Finally, twenty-five families were reported to have been settled out of the migrant stream in Northern states. These low levels of performance can be ascribed to three major factors: 1) the difficulties associated with program start-up; 2) the extremely difficult external conditions under which the program operated (lack of available services, resistance on the part of some agencies to providing services to migrants; employment service, employer and community resistance to the program); and 3) various program policies and structures.

Abt Associates Inc. recommends that the experience gained from the first year of program operation be used to restructure the program to increase its effectiveness.

1. It was found that use of a sample preselected in Texas provided a target population which was difficult to locate. This artificial constraint kept the program from operating at its full potential. It is therefore recommended that each state program work with a sample based on location within its geographic target area.
2. General delineation of objectives, intended to permit autonomy and encourage innovation, resulted more in confusion, limited coordination, and limited performance in terms of most objective criteria. It is therefore recommended that only those state programs with concrete objectives and specific plans of action be refunded for the second year of operation.
3. Ten different states were involved during the first year of operation in order to demonstrate the feasibility of inter-state coordination to serve the migrant population. Such coordination has neither proved to be feasible nor particularly useful in its present form. Moreover, the program impact has been too diffuse because of the desire to involve a large number of states. It is recommended that an alternative approach of funding fewer state operations more intensively and for a longer time period be considered. For example, each of four states might try three radically different and quite specific approaches to meeting migrant needs.

4. Program operations last year were hampered by a lack of services from other agencies and by a tendency to deal with migrant needs on an individual basis. It is suggested that more effort be devoted during the coming year to developing presently unavailable services and to arranging supportive services on a group basis (for example, with a mobile dental clinic rather than individual dental services arranged separately for each case.)
5. During the first year of operation, almost all program resources were devoted to employment of new staff. Proposals for next year should develop plans for spending funds in such a way as to have a direct impact on migrants (e.g., stipends for settling out, migrant loan fund).
6. Finally, it is recommended that several more specific programs be pursued next year:
 - A. A program for settling families out of the migrant stream with services for:
 - housing, including rent deposit loans and self-help housing;
 - job training with stipend
 - job placement
 - clothing and other incidental needs
 - B. An interstate migrant loan fund based both on Northern state target areas and in Texas.
 - C. A migrant labor corporation which would employ a group of migrants, contract labor with employers, and pay for migrant down time.
 - D. A program of wage dispute mediation and wage deduction monitoring.

The two-volume "Assessment of the Experimental and Demonstration Interstate Program for South Texas Migrants" provides a more detailed examination of the program's operations, and objectives attainment, as well as more detailed recommendations concerning the second year of operation.

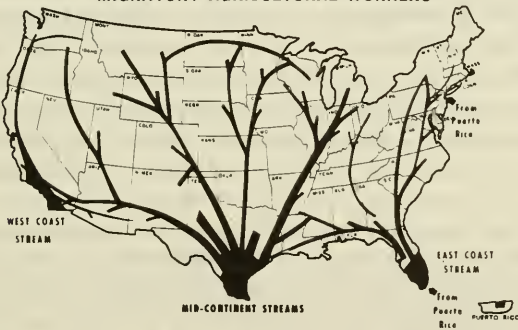
1. INTRODUCTION

The Social Situation of Migrants

In the United States today an estimated 500,000¹ to more than one million² people, about half of whom are workers, earn their living each year in seasonal agricultural labor, working to plant, care for, and harvest the crops which eventually find their way to American dinner tables. This agricultural labor force moves through fairly identifiable geographical patterns called migrant streams. These migrant streams originate in South Texas, Southern Florida, and Southern California, become more diffuse in the Northern state major crop locations (see Figure 1.1)³.

Figure 1.1:

TRAVEL PATTERNS OF SEASONAL MIGRATORY AGRICULTURAL WORKERS



¹ Leonore Epstein, "Migratory Farm Workers," Social Security Bulletin, XXVI, 5 (May, 1963), pp. 10-11.

² Subcommittee on Migratory Labor of the Committee on Labor and Public Welfare, The Migratory Farm Labor Problem in the United States, (Washington: U. S. Government Printing Office, February, 1968), p. 1.

³ Public Health Service, U. S. Dept. of Health, Education and Welfare, "Migrant Health Program: Current Operations and Additional Needs" (Washington, D. C., U. S. Government Printing Office, Dec., 1967), p. 6.

As the harvest in the Northern states is completed, the migrant workers return to their Southern based points of origin. This migration pattern has become an institutionalized way of life for tens of thousands of individuals.

The migrant workers and their families constitute a group of forgotten Americans. Although their labor is essential to the agricultural economy and the ultimate distribution of food in the United States, the people who provide this labor receive slim compensation for their efforts.⁴ All published reports surveyed indicate that both median and mean migrant family annual incomes fall below \$3,000. The Washington State study showed a mean family income of \$2,300 in 1966⁵, while the U. S. Department of Agriculture reported that in 1965 the average annual income of individual migrants exclusively engaged in farm work was \$1,046.⁶ These figures are fairly consistent if we consider that two family members work for every three who do not.⁷

The Public Health Service indicates that typical housing is "small, overcrowded and of substandard construction," and lacks adequate water supply and sewage and waste disposal facilities.⁸ They also indicate that the mortality rate of migrants from accidents, influenza, pneumonia, tuberculosis, and other infectious diseases were all greater than twice the national averages. Infant and maternal mortality were also found to be greater than the national average.⁹ These findings are

⁴It is not the purpose of this assessment to provide detailed documentation of migrant worker conditions. The interested reader is referred to a brief summary in Abt Associates Inc., An Evaluation of the High School Equivalency Program, 1967-1968 (Cambridge: January, 1969), pp. 1-8, and to an excellent bibliography in Consulting Services Corp., Migrant Farm Workers in the State of Washington, Vol. I. (Seattle, Washington, November, 1966), pp. 1-50.

⁵Ibid., Vol. III, p. 8.

⁶U. S. Department of Agriculture, 1967.

⁷Consulting Services Corp., op. cit., Vol. II, p. 60.

⁸Public Health Service, op. cit., pp. 10-11.

⁹Ibid., pp. 12-15.

supported by the Washington State Study which found the life expectancy of Latin American migrants to be approximately 39 years, little more than half that of the average U. S. citizen.¹⁰ In addition, both the Washington State report and field work undertaken as part of the present effort revealed cases of severe mental breakdown on the part of the migrants.

Migrants and their families also receive an education that is below national standards. The mean grade level attainment of adult migrants is approximately half the national average of ten years of education. Migrant children spend as little as 17 of the 36 weeks of the school year enrolled in school. They typically enter school late, change schools frequently, and leave school early. As children reach the age of ten they begin to drop school altogether because they are needed in the fields. This situation is, however, being improved by the development of intensive migrant schools in Texas.

The social conditions described above are not without their causes or their implications for life patterns of migrants. As is depicted in Figure 1.2, the nature of the agricultural industry in the United States presently necessitates a migratory life style, which, combined with the employer and government interactions, results in poverty level income, inadequate health care, and low levels of educational attainment. These factors and the large size of most migrant families make any transition to other types of employment extremely difficult. Migrants are thus "trapped" in a migratory cycle which breeds despair, acceptance of their fate, and, particularly among those with emerging political consciousness, cynicism about any external efforts to improve their lot.

Several additional points should be made concerning this migrant system. First, as in any social system, causality is not entirely on a natural or "ecological" basis. On the contrary, human activity (both independently and within the shelter of organizational policy) is directed towards maintenance of the present state of affairs,

¹⁰ Consulting Services Corp., op. cit., Vol. III, p. 11.

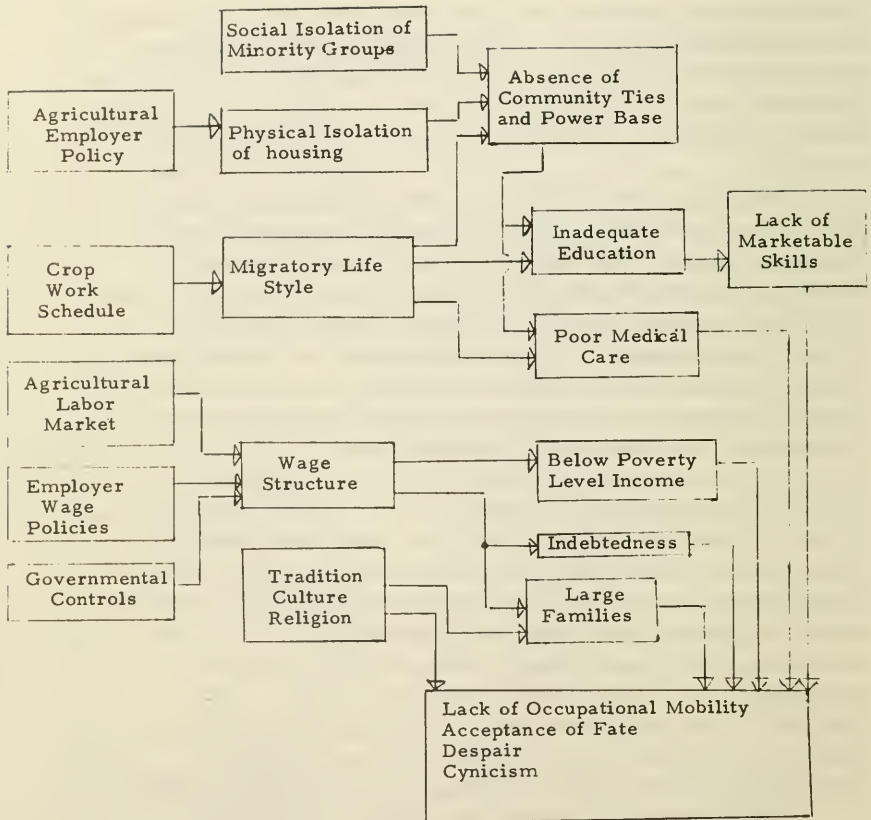


Figure 1.2: Causes and Consequences of Migrant Workers' Social Situation

usually because it is the best interests of the organization or individuals to engage in such activity. Thus, although the migratory life style is an ecological result of the schedule of crop harvests, human action is used to keep migrants isolated from the larger society. For example, organizational policy keeps housing regulations from being enforced and employer policy keeps workers indebted to companies.¹¹ Perhaps most importantly, because of employer policies and lack of government regulation the agricultural labor market is maintained in a constant surplus supply situation. This results in underemployment and all the concomitant problems of low income: i. e. , substandard education, health, and housing.

Secondly, one of the dominant myths about migrant workers and their families is that they "choose" to migrate of their own free will, and that they are always moving from one place to another "because it is in their blood." Conversations with migrants during the course of the present assessment have indicated that many of them wish to stop migrating but see it as an impossible goal. Migrants are forced to follow the stream each year out of economic necessity -- because they have no jobs in their home base areas, because they owe money to growers in the north, because they have borrowed money from crew leaders in their home base.

Finally, although Figure 1.2 does not include government and other institutional efforts to deal with the situation depicted, a number of programs at local, state and federal levels directly or indirectly serve migrants. Among these are migrants school programs, migrant ministries, local and state migrant councils as well as several federally funded programs; HEW -funded Migrant Health Programs, OEO - funded Migrant Opportunities agencies,¹² and the Experimental and Demonstration Programs -- including the present one for South Texas Migrants -- funded by the Department of Labor.

¹¹Each of these problems is discussed in greater detail in Chapter 8.

¹²Subcommittee on Migratory Labor, op. cit., p. 4.

South Texas Migrants and the Impact of Mechanization

Of the three migrant streams noted above, the one originating from Texas is the largest. An estimated 125,000 individuals migrated from that state in 1968.¹³ A sizable portion of these individuals come from the four-county Lower Rio Grande Valley. The Commission estimates that of the 99,000 migrant workers who have a home residence in Texas, 40,500 live in the Valley.¹⁴ A sizable portion of these participate in interstate migrations, although no official statistics indicate the exact number. These workers often live in "colonias" (groupings of from ten to a hundred families with no municipal services or status). Because of the rural location of these colonias, they are difficult to reach with supportive services. Moreover, there are few jobs aside from those in agriculture. Even the availability of these jobs is limited. Last year, during the peak farm employment month of April, 21,200 workers were employed in agricultural work in the Valley.¹⁵

Migrant workers in the Valley, like all migrants, face the prospect of decreasing employment opportunities in seasonal farm labor because of increasing mechanization of almost all phases of agriculture. The Good Neighbor Commission explains the situation in Texas:

There is substantial proof that demand for unskilled, seasonal farm labor continues to decrease and will continue its decline with the steady advance of mechanization. However, year-round farm workers in Texas are in short supply and a number of cotton gins failed to operate this last year for lack of experienced gin hands. This apparent paradox can be explained by considering the degree of skill possessed by the migrant workers. Today the hired farm worker must have some basic education and some skill in the operation and maintenance of farm machinery. Today Texas is industrializing and urbanizing and industry is very much in the labor market with the offer of better earnings, city dwelling, better schools, etc., which tempt many rural skilled workers away from the land.¹⁶

¹³The Texas Good Neighbor Commission, "Texas Migrant Labor; The 1968 Migration," p. 6-2. The Good Neighbor Commission has adjusted raw data provided by the Texas Employment Commission to compensate for workers regulated under Texas Bureau of Labor Statistics activities and workers not counted by either agency.

¹⁴Ibid., p. 7-2.

¹⁵Texas Employment Commission, "Texas Farm Labor: 1968 Annual Report," p. 7.

¹⁶The Texas Good Neighbor Commission, op. cit., p. 1-3.

The situation is quite similar in Northern states: mechanization is decreasing the overall demand for seasonal workers and increasing the skill level needed for jobs which are available. One of the most difficult aspects of this situation is that mechanization proceeds unevenly, mechanical technology being more adaptable to some crops than others. This results in a disrupted migratory pattern, reducing the number of days a migrant can expect to work during a season, and thus making the migration even more unattractive than previously.¹⁷

Migrants are thus faced with a situation in which there will be fewer unskilled jobs and less security in those jobs. Though industrialization of Texas and the rural to urban migration of former year-round skilled farm hands has created new employment possibilities, inability to speak English, lack of education, and low skill levels (as well as the systemic barriers to leaving the migrant stream) have prevented most migrants from availing themselves of these opportunities. The situation is a classic one of structural unemployment, even more pronounced in the Rio Grande Valley than in most locations because of the rural isolation of the population.

The Experimental and Demonstration Project for South Texas Migrants

The United States Training and Employment Service, through the efforts of its Farm Labor Operations office and the Texas Employment Commission have instituted an "Experimental and Demonstration Interstate Program for South Texas Migrant Workers." The program singles out two basic areas of concern. First, a program of employability services is needed for those migrant families who, because of diminishing job opportunities and for other reasons, wish to leave the migrant stream and settle out. Second, a wide range of supportive services (including employability services) must be available to families which follow the migrant stream to Northern states. In this regard, the program proposal maintains that, "In many of these states, supportive services

¹⁷ Joseph Kasper, Speech at the E and D Project Conference, Chicago, July 22, 1969.

either exist or can be developed, and through a coordinated effort on the part of various governmental and private agencies, such services can and must be brought to the migrant family."¹⁸

Given these needs, the program's overall purpose and scope is to "develop and determine the feasibility and value of a coordinated interstate program of multi-agency resources focusing on the problems of Mexican-American migrant farm workers and their families home-based in South Texas."¹⁹

Though operational objectives are never explicitly stated, a careful reading of various documents plus conversations with project staff have enabled Abt Associates to generate four objectives which project staff generally identify as the objectives of the project. These objectives all fall within the overall goal of building into the various states' farm labor and rural manpower services a capability for arranging supportive and employability services for their migrant clients. The objectives are as follows:

- 1) to demonstrate that a coordinated network of state employment services can provide the communications framework necessary for serving a migratory population;
- 2) to provide or arrange for provision of needed supportive services to migrants both during their Northern migrations and their winter sojourns in South Texas;
- 3) to provide the opportunity for upward job mobility on the part of migrants;
- 4) to provide necessary assistance to enable those migrants who wish to do so to settle out of the migrant stream.

The program is designed as a ten state coordinated effort involving the Farm Labor and Rural Manpower Offices in each of the states. The program is serving a sample group of 794 migrant families (approximately 4,700 individuals) who reside in South Texas. Basic pilot activities designed to meet the objectives are as follows:

¹⁸"Experimental and Demonstration Interstate Program for South Texas Migrant Workers, " (n.p., n.d.), p. 2.

¹⁹Ibid, p. 2-3.

For Texas:

1. Identify a sample of 794 migrant families who have migration destinations in a target area in one of nine northern states.
2. Determine needs of these families for supportive and manpower services while they are in northern states, and forward such information to the appropriate states.
3. Upon migrants' return to Texas determine the interest of families in settling out and provide necessary assistance.
4. Through outreach and follow-up determine the need for manpower and supportive services, and provide referral to appropriate agencies where these needs can be met.
5. During the time when sample families are in Northern states, provide the outreach and referral services to recent former migrant families who did not enter the 1969 migration.

For the Demand States:

1. Determine the need of sample family members for manpower and supportive services.
2. Expedite the referral of those individuals needing assistance to agencies and organizations which can provide them.
3. Follow-up to determine whether these services have been rendered.
4. Determine long-range needs of sample family members and forward such information to Texas.
5. Determine the desire of families to relocate permanently at the end of the migratory work season and provide them or make necessary arrangements for counselling, job placement and relocation assistance.
6. Engage in a variety of other activities to ease the transition, adjustment and assimilation of settling out families. The backbone staff used to implement these activities are to be Rural Outreach Interviewers (ROI's) - bilingual interviewers knowledgeable in the available services in a given area.

In addition to these basic activities described above, many of the Northern states are engaged in special add-on activities intended to explore innovative services and methods of service delivery. One

state, for example, is concentrating on mediation of disputes between employers and workers, while another is surveying needs of settled-out families during the winter months.

A Brief History of the Project

The present Experimental and Demonstration Program grew out of activities conducted in project HOPE, a study of migrants and their needs conducted at the Hope, Arkansas Migrant Rest Stop by William Hood, Director of the E and D Project in Texas during the fall of 1968. Various meetings during that period between personnel of the Texas Employment Commission and Department of Labor led to the gradual evolution of the present concept of an interstate multi-agency coordinated effort. The concept was finalized during December of 1968 and proposals were received from Northern states, analyzed and returned for resubmission. Revised proposals were received at the January National Manpower Conference, and various decisions were made at that meeting concerning allocation of effort between Texas and Northern states.

At this point the Texas Employment Commission had already received some funds (\$85,000) for development of the program. Texas, therefore, spent the spring months recruiting ROI's and other necessary staff, as well as requesting necessary funds, selecting the migrant family sample and interviewing families to determine their general needs.

Northern state employment services, which were brought into the program at a later date than Texas, spent the spring months developing programs for their own states and requesting operating funds. Delays in funding caused several states to get late starts in recruiting and training staff, and in at least one case, necessitated a cutback in program scope. Characteristically, these early months of the program's operation were disorganized, principally because of the limited time available for requesting and obtaining funds, and for recruiting and training staff. The program had originally not been scheduled for full-scale operation until the 1970 migration, but the Farm Labor Operations national office felt that the needs of migrants were so critical as to warrant a

startup for the 1969 migration even if that meant less groundwork. By the end of July, 1969 problems caused by late starts were generally solved, apparently without deleterious effect to the program.

Thus the summer months were spent by demand state program personnel identifying available services in their local areas (and in some cases attempting to develop the needed services), locating the migrant sample families who were scheduled into their local areas, interviewing family members, determining long-range needs, and trying to help meet immediate needs.

During this same period, Texas E and D staff worked to develop necessary training programs for returning migrants. In addition, some two hundred non-migrating families were contacted and provided whatever supportive and employability services were available. This activity was intended not only to deal with the structural unemployment problems of South Texas, but also to provide on-the-job training for ROI's in preparation for the return of sample families to South Texas beginning in September.

As of this writing (October, 1969), migrants have begun to return from the North and demand state E and D staff have begun to forward folders containing in-depth interview information on contacted families to Texas. Texas ROI's are contacting migrants and beginning to place some of them in available job training programs.

Introduction to the Assessment

The remainder of this report presents findings, conclusions, and recommendations concerning the Experimental and Demonstration Program for South Texas Migrants. The report is based on: 1) over 90 man-days of field interviews with project staff, members of other related organizations, employers, and migrant workers; 2) qualitative and quantitative analysis of data gathered during this field work; 3) inputs supplied by other companies involved in the assessment (specifically, New TransCentury Corp. and Interstate Research Associates, Inc.); and 4) library research.

Since the E and D Project has not yet completed one full year of operation, the present report should not be construed as a final

evaluation of the project. Rather it is intended as an assessment based on a current reading of the situation, designed to provide a constructive basis for deciding whether to refund the program, and, if the program is refunded, making program modifications toward the ultimate goal of helping migrant agricultural workers meet their own life goals. Thus, less effort has been devoted to documenting program successes than to identifying problems and proposing possible courses of action.

To this end, Chapter 2 presents conclusions about the attainment of objectives and an assessment of program objectives compared to migrant needs. Recommendations are then presented at two basic levels: 1) those relatively minor modifications of the program which will increase its effectiveness without structural change, and 2) maximum impact modifications requiring more basic redirection of the project effort. Finally, since it is the belief of Abt Associates Inc. that short-run recommendations tend to obscure the need for long-term planning, an attempt is made to balance the recommendations with a more general statement of projected trends and potential long-range governmental responses.

The remainder of the report is concerned with specific findings upon which the conclusions and recommendations are based. Chapter 3 deals with overall program structure, communication and coordination, while Chapter 4 concentrates on the Texas E and D Project. Chapters 5 and 6 present the results of quantitative analysis, while Chapter 7 is concerned with sample migrant families experiences with the project. Chapter 8 presents miscellaneous findings not directly related to the E and D Project, but of concern and interest to anyone involved with helping migrants. Finally, Chapter 9 presents a formal study design for evaluation of long-term project success.

2. CONCLUSIONS AND RECOMMENDATIONS

Introduction

The conclusions and recommendations contained herein cover a wide range of E and D Migrant Project concerns. They represent a composite view of the program's operation in ten states which is based on 1) eighteen man-weeks of field work; 2) extensive quantitative analysis using data gathered during field visits, and 3) library research concerning migrant labor and social conditions as well as legislation and programs impinging upon migrants.

The results of this activity are summarized in this chapter under several headings. First, the project is discussed in terms of attainment of objectives. Program objectives are then assessed in terms of migrant needs. Findings and recommendations are presented concerning modifications which should be made if it is decided to refund the program. These findings and recommendations are presented at two different levels; 1) changes necessary to improve the operation of the the program; and 2) maximum impact modifications which to some extent would require a refocusing of project activities. Finally, scenarios of long range trends in migrant labor are presented and governmental responses to these situations are explored.

Project Objectives Attainment*

Though operational objectives of the Experimental and Demonstration Program for South Texas Migrants are never formally and explicitly stated, a careful reading of various documents plus conversations with project staff have enabled the assessment team to generate a list of four objectives which are generally identified by project staff as the objectives of the project. These objectives are subsummed under the overall goal of building into the various states' farm labor and rural manpower services a capability for arranging supportive and employability services for migrant clients. The objectives are as follows:

*More detailed information on objective attainment is present in Chapter 5.

1) to demonstrate that a coordinated network of state employment services can provide the communications framework necessary for serving a migratory population;

2) to provide or arrange for provision of needed supportive services to migrants both during their Northern migrations and their winter sojourns in South Texas;

3) to provide the opportunity for upward job mobility on the part of migrants; and

4) to provide necessary assistance to enable those migrants who wish to do so to settle out of the migrant stream.

MAINTENANCE OF CONTACT WITH MIGRANT PROJECT FAMILIES

The objective of demonstrating that a coordinated network of state employment services can provide the communications necessary for serving a migrant population requires basically that the project transfer information about the physical location and supportive and employability service needs of migrants so that migrants can be contacted and served as they move through the migrant stream. The program was to include information about migrant needs in family folders which were to follow the migrant family from place to place during its migration. After the initial recruitment and interviewing of families in Texas, three distinct types of information transfer and migrant contact were required: 1) transfer of family information from Texas to the migrant family's first Northern work location and contact with the family at that location; 2) transfer of family information from one Northern location to another and contact with the family at the subsequent Northern location; 3) transfer of information back to Texas from the final Northern location so that families may be recontacted and served by Texas upon their return from the migration. The present assessment can report only on the first two of these types of information transfer and contact, since the third was not yet completed as of this writing.

Transfer of family folders with information gathered from brief interviews from Texas to the first Northern states was successfully accomplished. Contact of families in the first Northern location however was not particularly successful. Of the 794 families for which folders were received,

433 families or 54.6% of the total were contacted in their first Northern location, leaving 361 families which were never contacted in the North. There are three possible explanations for lack of contact: 1) the family didn't migrate; 2) the family did not migrate to the Northern project area originally specified; and 3) the family migrated to the area but was not located by E and D Project Staff. Even if we assume that 20% of sample families fall in categories 1) and 2) -- a liberal assumption, since some projects contacted more than 80% of their families -- there are still some 31.8% of families who migrated to the area they had stated in Texas and were not contacted by the project. The reasons for this poor contact rate include 1) poor staff organization and coordination attempts at locating families; 2) lack of specific information about where within a general area migrant families intended to work; and 3) in some locations, many and large migrant labor camps. Once a migrant family was contacted for the first time in a location, maintenance of contact was fairly good until the family left that location. Most contacted families were visited between once a week and once every three weeks, and more often when specific services were being provided.

Transfer of information from one Northern location to the next and making contact with the migrant family at the second location were less successfully accomplished than the first Northern contacts. During the entire summer migration up until September 7, in only twenty-three cases were family folders transferred from one Northern location to another. Thirteen of these were cases in which folders were forwarded to another area because families could not be located in the first area. In five cases (involving three families) of the twenty-three cases, E and D staff at the second location were able to contact the family. The low level of folder forwarding and contact in this area can be attributed to poor information about migrant departures from one area and subsequent destinations. Because of the sudden nature of migrant departures, contact with located families, though frequent, was not often enough to obtain this information.

ARRANGEMENT OF SERVICE DELIVERY FOR MIGRANTS

Arrangement of service delivery was defined for the purposes of the assessment as a situation in which an E and D staff member had played an active role in arranging for a service which a sample migrant had received. On the basis of this definition, examination of family folders indicated that as of September 12, 1969 a total of 754 services had been arranged in Northern states for members of the migrant sample. Of these 754 services,

330 consisted of in-depth interviews conducted by ROIs as requested by Texas. This leaves a total of 424 other services (approximately one service per family contacted) arranged. The largest numbers of services arranged aside from the in-depth employability interviews were in the categories of minor medical treatments (54 services arranged), dental care (54), job counselling (57), school enrollment (27), and nursery and day care (26). Services delivered represented 11.3% of all needs identified and 6.8% of needs identified excluding the need for an in-depth interview.

An estimate of the cost for service delivery arrangement was computed under the assumption that the major output activity in Northern states was service delivery arrangement. The cost of Northern programs was thus divided by the number of services arranged, providing a cost per benefit of service arranged of \$791 compared to a cost per potential service (i.e., need identified) of \$58. The cost per service arranged is quite high considering that the actual cost of the services themselves usually did not range over \$100. The high cost per service arranged may be attributed to a lack of readily available services (and a resistance to delivery on the part of some non-migrant agencies) as well as the difficulties of efficient outreach in a rural setting serving a migrant population. In some locations cost per service arranged was as low as \$279. This lower cost resulted from ease of locating migrants and development of blocks of services which could be offered to large numbers of migrants at one time.

While Northern states were working with sample families who had migrated, the Texas E and D Project served an additional 200 families which had not migrated from the Rio Grande Valley. For these families, Texas made a total of 106 referrals to job training programs (55 were enrolled) and 784 referrals to other service agencies. Projections of services received based on a sample of 64 of the 200 families indicates that Texas performed somewhat better than Northern states in service delivery arrangement. Of the approximately 250 referrals made for the 64 families, 76 resulted in services.

When an outside agency delivery statistic for the entire group of 200 is projected on this basis and non-job placement services provided by the Texas Employment Commission are added to this number, the result is that an estimated 278 services or 1.4 services per family were arranged.

UPWARD JOB MOBILITY

The third objective of the E and D Migrant Program was to upgrade job skills and jobs of migrant workers in order to offset structural unemployment resulting from mechanization of agricultural operations. Final assessment of attainment of this objective will have to await long term evaluation of sample families as compared to a sample of non-project migrant families. Activities to date have consisted of 330 in-depth interviews in Northern states (to be used in Texas for job counseling, training program placement and job placement) and 8 placements of migrants in non-agricultural jobs in Northern states and 49 such placements for the 200 family sample in Texas. Northern states were not able to work toward this goal very effectively because the greater part of migrants' time was taken up by work and because the population being served was highly geographically mobile. Texas, on the other hand, worked with a less mobile and less intensively employed population and was therefore able to accomplish more.

SETTLING OUT OF MIGRANTS

The final objective of the program was to settle sample families out of the migrant stream. As of October 3, 1969, a total of twenty-five sample families had definitely settled out in Northern locations. Seven of these families were settled in Idaho, whose add-on proposal concerned settling migrants out. The twenty-five families represent 3.1% of the 394 families in the project sample and 5.8% of those families which were contacted by Northern state staff. These percentages are not significantly different from the estimated 5.0% of migrant families which settle out in the North each year, and are considerably lower than the 10.0% which Texas had hoped would settle out in the North.

This poor success can be attributed in part to the characteristics of migrants which provide a high resistance to their settling out in the North;

their lifestyle, culture and aversion to cold climate operate against settling out. On the other hand, many state projects, particularly in the midwest, gave only a half-hearted effort to the attainment of this objective, and did not perform as well as other agencies dedicated to settling migrants out of the stream because they did not attempt to deal with the more modifiable barriers against settling out such as need for jobs, housing, warm clothing, community acceptance, school placement and funds with which to make the transition.

Assessment of Project Objectives and Migrant Needs

The goal of the Experimental and Demonstration Program for South Texas Migrants is to help migrant workers with their present problems and those incipient problems resulting from increasing mechanization of agricultural activities by developing a capability for service referral and delivery arrangement within state employment services.

The program itself did not clearly specify what operational objectives would be required if the goal was to be met. Indeed, many staff at all levels of the program are unclear about program objectives, and there is considerably less than total agreement on objectives among those who are able to specify a set. The assessment team developed the list of objectives already described above from a careful reading of various proposals and procedures manuals and discussions with program staff. The objectives of maintenance of contact, arranging supportive services and helping migrants to obtain better jobs are all fairly widely acknowledged as program goals by state level project staff.

There is more disagreement and ambivalence concerning the fourth goal, that of settling sample families out of the migrant stream. More than one state E and D Project director has declared it an unfeasible objective. Because of local community pressure on the project in some states, project coordinators have in many cases approached the objective with kid gloves, carefully presenting their activities as being directed toward aiding those families who of their own initiative have a strong desire to settle out, or presenting a "balanced view" of the advantages and disadvantages of settling out with families interviewed. In many locations even the "balanced view" was not presented to all families which were contacted. In short, there was considerable controversy and lack of coordinated policy concerning the goal of settling migrants out of the stream.

An assessment of each program objective and its relation to migrant needs follows.

MAINTENANCE OF CONTACT WITH MIGRANTS

Any assessment of project objectives and their relevance to migrant needs must in part depend upon the impact of successful objective attainment versus the resources devoted to and difficulty in attaining such a goal. Such is the basis for cost-effectiveness analysis, and while there is insufficient quantifiable data to do a formal cost-effectiveness study, the concept serves as a good basis for examining objectives of the E and D Project.

The objective was one of demonstrating that coordinated communication between different state employment services could be used to provide more effective service arrangements for migrants. Optimally, objective attainment would reduce repetition of information-gathering and improve the ability of local employment services to plan to meet needs of migrants. Neither of these benefits has materialized to any great extent. Information exchange has not taken place in sufficient quantity or depth to reduce the repetition of information gathering.

The second benefit is also of minimal importance since services available have never been constrained by migrant needs. The amount of time and money devoted to maintenance of contact with sample family migrants has been considerable. Northern states spent much of their time trying to locate families in the sample, and a great deal of their effort was fruitless.

Because of its experimental nature, it is understandable that the project worked with a pre-selected sample of migrant families during its first year of operation. Much useful information has been gained from this approach. But due to the low cost-effectiveness of such an approach with reference to migrants it seems unadvisable to continue with the objective of maintaining contact with a pre-selected group. If the program is funded for a second year of operation, it is suggested that instead of devoting time and effort to locating specific families, Rural Outreach Interviewers should work with whatever families happen to be in their geographic area. In cases where migrants would benefit from services which could be provided in their home base area but not during migration in Northern states, necessary information concerning family name, home base address, and family needs could be forwarded to the appropriate home base employment service office.

ARRANGEMENT OF SERVICE DELIVERY

Again, using the framework of cost-effectiveness analysis, assessment of the objective of arranging services for migrants suggests that some revision should take place. Optimally, arrangement of service delivery has a direct impact on migrants: a need is met. Attempts at making such arrangements during the first year of E and D operation were not totally successful, mainly because of a shortage of available services and resistance to providing services for migrants by various agencies and groups. This difficulty in obtaining services is reflected in a high cost per benefit of services arranged (see Chapter 5). Clearly the present constraint on migrants receiving services is not an inadequate outreach function, but rather, lack of available services. It is suggested that if the E and D Program is to operate for a second year, whenever staff members recognize services shortage rather than lack of outreach to persons with needs to be the current constraint on services, project staff should devote increased time to service development and less time to outreach for service arrangement, particularly when a reading of the local situation indicates that needed services are either unavailable, not easily obtainable, or oversubscribed.

UPWARD JOB MOBILITY

Optimal effectiveness of providing migrants with better jobs or opportunities which lead to better jobs is quite high. A long range rather than a short term need is met: the migrant enjoys what can be a permanent change in income and permanency of employment. The macro-situation in migrant labor is also improved because unemployment and underemployment are reduced. The costs of objective achievement in this area is not substantially greater than that of arranging other services. In terms of E and D Program resources, the cost of arranging services necessary for upward job mobility is greater by perhaps a factor of 10 than the cost of arrangement for other services, yet the benefit is such that it provides the migrant with a basis for meeting his his family's needs on his own.

Thus, under optimal conditions the objective of upward job mobility is a highly cost-effective one. Objective attainment of the E and D Project in this area has not progressed sufficiently for valid assessment, particularly in Texas where the bulk of this type of activity will take place. It is apparent

however that Northern states are not able to function very successfully in meeting this objective because of the itinerant nature of the population they serve. Only when a migrant family decides to settle out can Northern states achieve their objective. Texas has a better opportunity in the area of providing upward job mobility because of the more lengthy stay of migrant families and their low level of employment during that period. On the other hand, the availability of jobs in the Rio Grande Valley is not particularly great. Thus, though the objective is a cost-effective one in terms of migrant needs and available resources, objective attainment is a difficult task. It is recommended that the objective of upward job mobility be continued and that local office explore the pre-conditions for attainment of this objective and develop programs (e.g., economic and job development) to meet these pre-conditions so that more migrants will be able to obtain jobs outside the migrant stream.

SETTLING OUT OF MIGRANTS

The final E and D Program objective of helping migrants settle out of the stream, like the objective of upward job mobility, has a high effectiveness. Although resource costs associated with attainment of this objective are also quite high (higher even than those associated with upward job mobility), these increased costs are not without their benefits. The likelihood of success in resettlement is increased when other needed services are arranged in addition to a job. The E and D Program has not been too successful in attaining this objective until now, principally because of a lack of commitment to the objective on the part of certain program staff in Northern states, but also due to the difficulties involved in successfully settling out families. Like upward job mobility, the objective is a cost-effective one, but one which requires careful task definition and execution.

Findings and Recommendations

Findings and recommendations are presented below under three categories: general findings recommendations concerning changes which are suggested for the program if it continues for a second year in any form, recommendations which should be implemented only if the program is to continue to operate with the same general objectives and structure as it presently has, and finally, recommendations which should be considered if there is a desire to alter significantly the program's objectives and mode of operation, in order to maximize cost effectiveness of impacts on migrants.

GENERAL FINDINGS AND RECOMMENDATIONS

1. Program Administration, Coordination and Operations

*Objectives

Finding: There is considerable lack of agreement between state projects on the goals and objectives of the Experimental and Demonstration Project for South Texas Migrants. Indeed, in various states the project is working toward quite different ends. At the "front line" (Rural Outreach Interviewer) level of the program, there is both confusion about objectives and actions and, in some cases, ignorance of objectives. Differing perceptions of objectives and lack of knowledge of objectives have led to poor coordination between states and have hampered the program's success.

Recommendation: It is suggested that program administrators at the Washington, D. C. office hold a workshop with state level staff in which participation of all members is encouraged so that a consensus can be reached concerning goals and objectives of the program. Such clarification will result in better coordination between states and more effective action toward attaining the agreed upon goals and objectives.

*Late Funding

Finding: Though several states complained that late funding had hampered the success of their operations, there were few cases of irreparable damage and by mid-summer most states seem to have overcome any time loss caused by funding delays.

*Hiring

Finding: Quantitative analysis indicates that the adequacy of hiring procedures affects the quality of staff in terms of its experience in similar work and its commitment to goals and objectives of the project. There was also found to be a relationship between commitment to the project on the part of staff and the effectiveness with which staff were working to arrange services for migrants.

It was also found that staff who worked on the project who had been previously engaged in employability activities did not perform as well in the areas of service development and arrangement.

Finally, some states (for example, Texas) hired Anglo non-bilingual Rural Outreach Interviewers.

Recommendation: Hiring guidelines should be established by the national office and influence exerted on the states to adhere to guidelines as closely as possible. These guidelines might take the following form for the position of Rural Outreach Interviewer and local Project Coordinator (criteria are listed in order of importance):

Rural Outreach Interviewer:

- bilingual
- former migrant
- two years experience outside migrant stream
- high school education or equivalent
- "street knowledge."
- committed to goals and objectives of program
- young (20-30)

Local Project Coordinator:

- experience in a social service agency or the employment service
- middle aged (30-50)
- college degree or some equivalency of experience

*Civil Service Criteria

Finding: Many potential outreach workers could not be hired because they did not meet state Civil Service criteria for the job equivalent of outreach interviewer. The most serious deficiency was in education. Many of the settled out migrants have not even finished high school, whereas most states require some college for the position of ROI.

Several states were able to hire migrants by substituting experience for the requisite education. The ROIs who were hired in this manner have proved to be as qualified as college-trained interviewers, and were very effective in establishing rapport with migrant families.

Recommendation: Hiring of Rural Outreach Interviewers according to criteria described above should not require exceptions to state Civil Service criteria. The person who has settled out of the migrant stream has received far more education about migrants in and out of the migrant stream than could be taught in a college classroom. This experience alone is the equivalent of the formal educational requirement. Project direction in the various states should develop strategies for obtaining properly qualified personnel. These strategies might include:

- 1) specifying new civil service positions with special criteria and working for their acceptance
- 2) negotiating with Civil Service to substitute pertinent for irrelevant criteria on already approved positions.

*Training

Finding: There is a definite link between the length and adequacy of training on the one hand and the ability of staff to operate effectively toward arranging service delivery for migrants. In states where training periods were short and did not include on-the-job training, emphasis tended to be on state employment service policies, operations and procedures. With this type of training, project staff were poorly prepared to perform the tasks of service development, migrant contact and arranging services.

Recommendation: Training for new staff should emphasize the unique knowledge and skills necessary for working on the E and D

Project. Included should be education in tasks necessary for objective attainment, such as service agency coordination methods, service development methods, outreach methods, discussion of possibilities of the ROI role as a migrant advocate, methods of coordination with other states, and so forth. Before a new staff member begins to work in a given area, he should be given location orientation by someone familiar with the area. This orientation should include introductions to key persons in the employment service and other agencies, education in the location of migrant labor camps, introduction to employers, explanation of the local political situation, and so forth.

*Workshops

Finding: Instruction of and information exchange between project staff members, both within and between states, is limited. Many project staff members report feeling alienated from the E and D Project organization and making mistakes which they felt could be avoided if they knew of others experiences.

Recommendation: Workshops should be held in Northern states for all project staff in three-state areas after the first few weeks of project operation so that common problems can be discussed, feelings of project solidarity can be established, and problems of interstate coordination can be worked out. In addition, regular regional and tri-regional meetings should be held to resolve problems.

*Service Availability Handbook

Finding: there is a lack of information about availability of services in other local areas which makes it difficult for project personnel to counsel migrants adequately and help them plan for service delivery in a different location. This gap is most serious at present between Northern states and Texas, because that is where the greatest information exchange is utilized. The result has been that Texas has promised services to migrants in Northern states where no such services exist in Northern states, and Northern states have not been able to properly counsel migrants about opportunities in Texas because of a lack of information.

Recommendation: That the National Office coordinate the development of a handbook listing all services and their availability and

source in the various locations. This handbook would be distributed not only to E and D personnel, but also to other service agencies. The handbook should be periodically revised on the basis of new information.

*Camp Location List

Finding: In local areas where there are numerous camp locations, farm placement offices do not have adequate information about camp locations, owners, owners' phone numbers and other relevant information. This lack of information has made maintenance of contact with migrants a difficult task.

Recommendation: Project staff or other personnel in these states should obtain or compile such a list.

*Settling Out

Finding: There is an ambivalence among state project directors towards the goal of settling migrants out of the stream. Rural Outreach Interviewers and other staff at the local level are unsure of what steps should be taken with regard to ascertaining desire of migrants to settle out, and have no clearcut plan of action to help those families who do wish to settle out. Finally, the E and D Project does not have funds available for use in helping families to settle out, and many of the problems of transition from the migrant stream to a settled out life (problems such as need for income until a job can be found, need for winter clothes, etc.) are ones which require money rather than services.

Recommendation: It is suggested that the E and D Project at all levels explore what services and resources can be offered to families which are interested in settling out. One possibility involves the granting of a stipend from the National Office to a local area for each family which settles out the money to be applied directly to that objective. Whatever resources turn out to be available, project staff should offer these resources to migrant families as an incentive for them to settle out.

*Recruitment of Migrants for E and D Work

Finding: Rural Outreach Interviewers maintain extensive and close contacts with the families which they are able to contact. If ROIs were to continue to operate in this same role, they would eventually become

hardened to the problems of migrant families, and therefore, less effective in dealing with these problems. The experience itself, however, is a positive one, particularly for former migrants, because it improves their ability to operate in the non-migrant world.

Recommendation: The E and D Project should work to benefit migrants not only through the services of the program, but also by recruiting migrants to work in the program. Outreach interviewers should be encouraged to use this first step as a basis for mobility into college, supervisory or training positions. Such activity will provide the Mexican-American migrant population with an increasing number of members with skills necessary for their community; it will help employment services to come closer to minority group integration, and it will provide employment services with a skilled supervisory staff for E and D Project expansion or work on similar projects.

2. Program Personnel and Structure

*Overall Coordination

Finding: There is an absence of exercise of authority for overall coordination of the E and D Project. Although certain documents indicate that the Texas E and D Director is to fill this role, he has neither the time, the interest, nor the authority to do so. Coordination has occurred on an informal basis between Texas and regional staff in the Midwest and Northwest, with the Federal Farm Labor Office serving as an informal mediator. The Federal Farm Labor Office has worked to meet needs of individual states for additional funds and new programs, but has not provided sufficient overall direction for the on-going operations and problems of the program.

Recommendation: The National Farm Labor Office should fill the leadership and authority void now in existence by making decisions not only concerning funding, and program development but also concerning operation and procedures. Communications channels should be structured such that problems filter up to the lowest administrative level at which they can be resolved. Routine communication which does not require new policy decisions should take place at the lowest possible level of administration.

*Job Counselor

Finding: Quantitative analysis indicates that the presence of a job counsellor employed full time by the E and D Project results in higher rates of settling migrants out of the stream. Projects which did not have a full time job counsellor seemed to have difficulty working well with regular employment service job counsellors.

Recommendation: The E and D Project should employ a full time job counsellor at each project, if possible. This individual need not have all the qualifications of a regular job counsellor, and should engage in other activities relating to the E and D Project beside counselling. For example, the job counsellor could serve as project coordinator and service developer.

*Bilingual ROIs

Finding: In a number of locations (particularly Texas), Anglo-American individuals were recruited for the project positions even if they were not bilingual. This policy was justified on the grounds that no Mexican-Americans met the educational requirements. Such a policy is counter-productive to the project's objectives, since Anglos who are not bilingual have difficulty establishing rapport with any Mexican-American and cannot communicate at all with non-bilingual Mexican-Americans.

Recommendation: E and D Project directors should make intensive efforts to recruit bilingual former migrants for staff positions. The National Farm Labor Office should exert all influence possible to see that such a policy is carried out.

*Relation of Project to Local Office Manager

Finding: Presently, some outreach interviewers report to and are directed by the local office manager. The regular policy and practice of many local office managers is not consistent with the type of activity being performed by the outreach worker. This results in a conflict between the local office manager and the ROI which usually results in the ROI being less aggressive and less effective in providing counsel and services.

Recommendation: The local office manager should be advised as to why the outreach approach is necessary. If this concept can be conveyed, greater participation and enthusiasm may

be secured from the local office manager.

An E and D coordinator operating at the local offices could promote this concept with both the ROIs and the local office manager. At the same time, he would act as a buffer between ROIs and the local office manager. This would allow greater autonomy of operation for the ROIs.

*Local Office Manager Contacts

Finding: Local office managers are in a position to secure agreements from other local community agencies, but have not done so to the extent possible. Local office managers know and coordinate with numerous agencies in the local community. However, only limited use has been made of these contacts, since local managers have not been fully oriented to the goals and objectives of the project and are not familiar with the kind of agreement needed for the outreach effort.

Recommendation: More information should be given to local office managers so that they will be better able to obtain the commitment of services in the local area for the benefit of the program. This would eliminate many of the difficulties which the outreach workers have previously encountered in going to the agency on individual cases and getting service commitments on a one-to-one basis.

3. Migrant Information

*ED-5 Forms

Finding: The actions required to meet a migrant's needs are unclear because the Family Data Sheet (ED-5) specifies needs and final outcome only and all other information concerning action taken regarding those needs is scattered and/or buried in forms such as the daily log kept by the ROI.

Recommendation: An "Action Log" for each need of each family member should be maintained in the action folder to indicate the latest action taken with regard to that need and the next action which has not been taken but should be taken. This information should be kept until all action necessary, desirable or feasible has been taken. The outcome should then be entered on the Family Data Sheet.

*Diversity of Forms

Finding: The form and level of information being reported in the various states varied. There is little correspondence in terms of forms being utilized, or in the way common forms are filled out.

Recommendation: All forms being utilized should be obtained so that standard forms can be developed on that basis. The standard forms should include information which will most accurately and uniformly document the E and D Project.

*Overdocumentation

Finding: Many of the projects are documenting their process of activities in such detail that they spend an excessive amount of time on paper work. Overdocumentation hinders the outreach workers and is so voluminous that it is difficult to interpret without first being summarized

Recommendation: Outreach interview reports should concentrate on reporting outcomes rather than devoting excessive time to process. The level of information can be maintained (even improved) and more time will be made available to the ROIs for contacting agencies and families.

*Space for Reasons for Nondelivery

Finding: Forms supplied by Texas provide for only limited responses. Many states object to two columns on the ED-5 for services needed and services completed. Such representation does not show the efforts required to secure those services and reasons for non-delivery.

Recommendation: More space should be provided to reasons for non-delivery. This information will be useful to document deficiencies and bottlenecks in service delivery.

4. Service Agency Coordination and Service Development

*Special Character of the Migrant Population

Finding: Many services in Northern states are not oriented toward Mexican-American migrant workers' needs and situations. Some services are underutilized by migrants because of cultural and communications barriers to knowing about, feeling a need for, and "feeling at home with" such services. The E and D Project is working to reduce such barriers. In other cases (such as food stamp

programs and unemployment compensation) criteria for receipt of services discriminate against migrants. This most frequently occurs when previous income is used as a predictor for future need. Finally, the turn-around time for receipt of some services is too long to benefit migrants.

Recommendations: The Department of Labor should engage in an intensive effort to educate other federal agencies about the special nature of the migrant population and its needs. Similar efforts should be carried out at the state and local employment service levels.

*Local Coordination among Agencies

Finding: There is a general lack of coordination among service agencies working to help migrants in local areas. This lack of coordination is manifested in duplication (e.g., more than one program), overlap (e.g., two agencies providing the same service to some of the same migrants) gaps (e.g., when overlap occurs, needs which could be met are left unmet; and when there are no programs to meet needs), timing (e.g., programs which are not geared to migrant arrivals and departures), and time of day (migrants cannot take advantage of services while they are working in the fields).

Recommendation: The problem of coordination should be dealt with at all organizational levels so that the already scarce resources available for services are not wasted. Federal agencies involved in migrant services should set up a planning force to develop a method of task allocation at the federal level.

The results of this planning effort should be made known to involved regional and state agencies and offices. These offices should be asked to comply with federal coordination guidelines. Finally, local planning force meetings should be held with all agencies and interested groups.

These planning groups should incorporate and modify as necessary the federal coordination guide-

lines so as to optimize the use of locally available resources for migrants.

***Service Availability Information**

Finding: One reason for low levels of service delivery is that Rural Outreach Interviewers are poorly informed about service availability in their local areas. A considerable amount of time is wasted discovering or rediscovering service availability.

Recommendation: The Department of Labor should compile a master checklist of services which could and/or should be available to migrants. This checklist should then be distributed to state and local employment service offices, where intensive efforts should be made to locate such services and document their availability, capacity, source, requirements for delivery, and other pertinent information. This information should be compiled on a local, state and national basis and distributed to all project areas. It should be updated as necessary.

***Block Service Development**

Finding: Identification of potentially available services, coordination with service delivery agencies, and development of previously unavailable services have been activities which have been slighted to some degree in the E and D Project. One extremely prevalent aspect of this problem is the tendency to secure services on a one per need basis rather than developing blocks of services for blocks of needs. Reasons for poor service development include: 1) poor emphasis in training; 2) lack of a personnel position in charge of this type of activity; and 3) ROI reluctance to assume such a role. Quantitative analysis of program data indicates that the adequacy of activities devoted to finding services has a direct impact on the ability of the E and D Project to deliver services to migrants.

Recommendation: Greater emphasis should be given on methods of service development during training. This training should include instruction on how to obtain commitment for large blocks of services. Finally, one E and D

staff member at the local level should be given clear authority for coordinating service development.

***Service Delivery Seminars**

Finding: Outreach interviewers gained most of their knowledge about services by trial and error, while on the job. The trial-and-error method did effectively teach the ROIs how services are obtained, although it required a great deal of time. Other ROIs were then forced to go through the same process to learn about the same service.

Recommendation: Informal seminars could be conducted on the job to discuss service delivery; the problems which the outreach workers have encountered could be communicated to the group during such sessions. The presence of an experienced interviewer to transmit previous experience of ROIs would provide a more uniform and broad base of knowledge for all. These sessions would also serve as a forum for comparing experiences and actions taken for different family situations. A more formal seminar might be conducted among outreach workers from several different states.

***Negotiations with other Agencies**

Finding: E and D Project staff make little use of services available through employment service facilities. On the other hand, ROIs have not developed effective coordination methods whereby they would act as outreach personnel for the other agencies.

Recommendation: The E and D Project should exploit its outreach capability by negotiating with other agencies to guarantee a screening/transportation/intake function in exchange for guaranteed services. This would permit the "purchaser" agency to concentrate on service delivery.

***Migrant Rest Stop Services**

Finding: Migrants do not take advantage of available services in Northern states for many reasons, foremost among them being their remoteness from service delivery locations and their lack of time during the work season to take advantage of services.

Recommendations: The migrant rest stop program should be continued and strengthened by making short turnover services (such as medical checkups, inoculations, and quick dental work) available in one location.

5. Migrant Needs for Services

*Migrant Information Gap

Finding: Migrants suffer from an information gap because of their high geographic mobility and social isolation in migrant labor camps. This information gap prevents migrants from being aware of their legal rights and social options.

Recommendation: The ROIs should use their presence in migrant labor camps to provide information to migrants that they could otherwise not obtain. Migrants could be educated in wage deduction rights, social security rights, legal rights and methods of obtaining such rights. The Department of Labor should prepare information outlines on these and other topics to be distributed to ROIs.

*Education in Impact of Mechanization

Finding: The economics of the migrant way of life as compared to settling out is not well understood by migrant families (who have a great deal at stake in such a move). Migrants do not understand the implications of mechanization, nor do they realistically consider the change from a short migrant work season by whole families to a full work year by a family head.

Recommendation: The Department of Labor should prepare and disseminate to migrants a bilingual pamphlet describing the impact of mechanization on their lives and the possible options available to them. The pamphlet should provide a realistic picture of the costs and benefits of each option. The pamphlet should be distributed to all employment service offices serving migrants to other federal agencies for distribution through their offices

serving migrants, and to E and D Project staff for distribution during their work with migrants.

*Migrant Loan Fund

Finding: In some cases employers involve migrant farmworkers in a cycle of economic indebtedness by loaning them money during the winter months or during periods when there is no work available and deducting loan repayments from family wages at a later date. The practice bears some resemblance to "company stores" in coal mining towns during the 1920's.

Recommendation: The Department of Labor, in conjunction with state employment services, should work to end this unhealthy practice and foster migrants' ability to manage their own affairs by establishing a no-interest migrant loan fund which would provide loans to migrants during their down time.

*Skilled Farm Labor MDTA

Finding: Skill requirements for available agricultural jobs are increasing even as the total demand for migrant labor is decreasing. Both these trends, of course, are due to mechanization of agricultural tasks.

Recommendation: The Department of Labor, in coordination with state employment services, should set up additional MDTA courses specifically for the purpose of training migrants in the operation of agricultural and food processing equipment.

*Migrant Labor Underemployment

Finding: Even during the migrant labor season, there is unemployment and underemployment of migrants due to geographic surplus and crop schedules. The pool of available migrant labor is maintained at a high level so that shortages can be avoided, but the impact on the migrant is underemployment.

Recommendation: The Department of Labor should explore the feasibility of implementing a migrant labor force geographic and time-based planning and allocation model which would maximize migrant employment by eliminating labor shortages and surpluses. The model would also have the

impact of reducing the size of the total migrant labor force and would thus decrease overall unemployment. A more lengthy discussion of this model is included in Appendix II of this assessment.

*Impact of Mechanization

Finding: There is a great deal of rumor and myth surrounding the impact of mechanization, but facts about its projected impact on the migrant labor pool are not readily available. Although there is some information about the rate of mechanization of various crops, the degree to which mechanization will unemploy and underemploy migrants is not clear. Nor is there information available about costs in comparison to benefits of various courses of action by present employers of migrants.

Recommendation: A study of the impact of mechanization, perhaps utilizing a dynamic programming or industrial dynamics approach, should be made so that better planning for the transition can be made by employers, government and migrants. This better planning would minimize the adverse effects of the transition.

RECOMMENDATIONS FOR THE NECESSARY CHANGE SITUATION ONLY

1. Program Administration and Coordination

*Negative Attitudes

Finding: Negative attitudes toward the project's objectives and activities on the part of some state E and D Project Directors and local office managers (often not directly connected with the project) have restricted the activities of project staff in some local areas and caused the program to operate less effectively than it could. Quantitative analysis indicates that such factors as attitude of the state director have an impact on all project operations from hiring and training to service delivery and settling out.

Recommendation: If the program is to be continued within the same general structure, steps must be taken by the national and regional Farm Labor Operations offices to modify the attitudes of state project directors who are

presently opposed to the program. Where these attempts are unsuccessful, steps should be taken to minimize the negative impact of the state directors' attitudes. Such steps might include extensive work with local staff members by regional staff and, in general, strong support to local staff in their activities. In cases where local office managers are opposed to project operations, attempts should be made to change their attitudes. Where this is unfeasible, regional and state level staff should set the project up so as to minimize the authority and influence of local office managers on the project.

*Communications Channels

Finding: Communication between various state projects is slow and channels of communication are cumbersome, mainly because information must flow from a local to state office, then to another state office, and finally to the second state's local office. The difficulty and time consumed by use of such channels inhibits the amount and type of information which flows through such channels. In many cases, ROIs do not utilize communication channels for small bits of information (e. g., more detailed migrant destinations) because of the amount of work involved.

Recommendation: Communications for routine information should be streamlined by having direct exchange of information (both by mail and by phone) between local offices in different states. State offices could be sent carbon copies of such communications so that they would be aware of transactions' content.

*Settling Out Approach

Finding: State project E and D staff have reacted to the settling out situation in two general ways: 1) In the Midwest states, ROIs have been instructed to provide a "balanced" picture of settling out to migrants. They have done so, carefully describing the pros and cons of such a move to migrant families. The result has been little or no interest in settling out on the part of sample families.

2) In the Pacific Northwest region, ROIs (who are often settled-out former migrants themselves) have acted as advocates of settling out in their discussions with migrants. This tends to yield increased interest in settling out and concrete activity (e.g., job counselling, placement and housing location) towards that goal.

Recommendation: If settling out is to be an objective of the project, project tasks and operations at the local level should be modified so that the objective can be achieved. ROIs should be encouraged to discuss with all families problems and benefits of settling out. A clear set of service capabilities (e.g., job placement, housing location, transition subsidy) should be maintained, and migrants should be informed of the availability of these services should they desire to settle out.

2. Program Personnel and Structure

*Project Organizational Connections

Finding: In a number of Northern states, the local Employment Services and Farm Placement Bureaus represent employer-oriented operations in which the primary stress is on employability and filling manpower needs of local employers. This situation is often reinforced by social connections among employers and Employment Service representatives, all of whom are to some extent part of a managerial elite in Northern state farming communities. In addition, Farm Labor Bureaus are showing increasing concern for survival of their placement and clearance function. This is a result of: 1) knowledge that migratory patterns are in many cases routinized, and, therefore, no longer need clearance orders; and 2) more stringent Federal housing regulations for migrants which have precipitated a decline in the number of clearance orders processed by the Farm Labor offices.

Thus, in the present situation, the Farm Labor office can often stay busy only by: 1) not enforcing housing regulations strictly, and; 2) not alienating those employers who, though they could recruit without ES help, do go through Employment Service channels to get their labor.

Placing a migrant-oriented service arrangement project within the framework of such an organization in many cases unnecessarily restricts project activities and prevents ROIs from being optimally effective. Quantitative analysis indicates that during the past year, projects operated most effectively if they were located within the local Employment Service office but were independent of direct control.

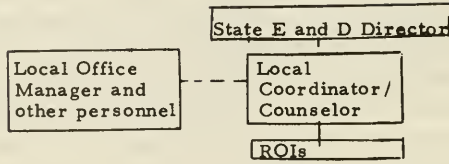
Recommendation: Ways should be sought whereby the E and D Migrant Project can become independent of any local office control. Regional and state staff should work to arrange projects so that they are located within local E. S. offices but are not under the direct or indirect control of regular employment service personnel. If such an arrangement cannot be established, the project should be located outside of the local Employment Service office (for example, in a jobmobile).

*Local Project Organization

Finding: Direct line control of the E and D Project by the Local Office manager has in most cases where it has occurred resulted in a loss of project effectiveness. ROIs felt constrained in their roles: in some cases LOMs placed restrictions on their working hours and activities which made it impossible for them to work towards attainment of the project's objectives. Quantitative analysis shows that projects which operated under direct local office control were generally ineffective. On the other hand, analysis of data indicates a definite need for a clear directive and managerial position in the E and D Project at the local level. Finally, projects which employed a full-time job counselor were found to operate more effectively than those without one.

Recommendation: The local E and D Migrant Project should be independent of direct Local Office Manager control. There is a need for a project coordinator and for a job counselor at the local level. It is suggested that one person fill these two roles. The person's principal duties would be direction and coordination of ROI activities, development of service commitments and new services, counseling of migrants, and liaison between the project and the local office in order to effectively utilize the offices' capabilities in job training and job placement. The organization

of the project would be as follows:



*ROI Role

Finding: There is a lack of clarity concerning ROIs' role. The confusion occurs in part because the term "outreach interviewer" in other contexts refers to a representative of a social service agency who recruits participants for the agency's programs. The ROIs do not in general fill this type of role. They rarely have any services which they themselves can offer migrants. Instead, they must usually act in the role of migrant advocates who pave the way for migrants to receive services from a variety of sources.

Recommendation: Negotiations should be carried out with service agencies to allow ROIs to act as their direct outreach interviewers with full powers to arrange services. If this approach proves unworkable, ROIs' role should be redefined as that of migrant advocate and ombudsman. This redefinition would require giving ROIs a broader mandate as to the types of activities they would engage in. Such activities might include migrant education in family budgeting, pursuing legal rights of migrants, and acting as a persistent champion of migrants' rights to services from local agencies.

3. Migrant - Program Interaction

*OEO Guidelines

Finding: Many of the E & D project families are above OEO poverty guidelines. This means that they do not qualify for any OEO programs. OEO provides the services which are most beneficial to migrants and is a major resource used by the Rural Outreach Interviewers.

Recommendation: Texas interviewers should ensure that families selected for the sample will qualify for OEO help in the states to which they are going.

*Needs Identification

Finding: Due to the limited depth of the interviews conducted by Texas ROIs, many needs of migrant families were not stated or were not researched sufficiently to allow Northern participating states to try to plan for service delivery.

Recommendation: More thorough interviews should be conducted in Texas to verify family needs. Summaries of needs by category of service and Northern destination should be forwarded to appropriate Northern staff.

*Promises in Texas

Finding: Many promises were made to project families by Texas interviewers which could not be fulfilled by Northern states. Some services promised by the Texas ROIs do not exist or were not contemplated as within the scope of the project. A great deal of time has, therefore, been spent in Northern states apologizing to families for over-promises and then regaining families' confidences that some things could really be done.

Recommendation: Texas interviewers should not make promises which cannot be kept. Texas interviewers should know what services are available in the North and should conduct more interviews to ensure that families understand the project and what it can and cannot do.

*Destination Information

Finding: Present information supplied by Texas to Northern states is not as complete as it might be. Northern states in most cases had difficulty making first contacts with migrant families on the basis of available information. In many cases more detailed information about destinations was available in Texas but not provided to Northern states.

Recommendation: Texas should make every effort to obtain and supply more detailed information about family destinations to Northern states. Of particular help would be inclusion of a copy of the Annual Worker Plan (giving a series of destinations and approximate lengths of stay) in each family folder.

* Loss of Contact

Finding: Contact with the migrant family is usually lost after the first stop on the migrant itinerary, since ROI contact with sample families is not frequent enough to be sensitive to departures. Thus, family folders are seldom forwarded to the migrant family's next sojourn location.

Recommendation: Some method should be provided to allow the migrant to inform the Employment Service of his new location after he has left an area where contact has been established. One method might be to provide the migrant with a pre-paid post card addressed to the office which last contacted him. The migrant would fill in his new address after he had arrived there, whereupon the old office could forward the appropriate folder and the family's new address to the new location office.

4. Service Agency Coordination and Service Development

*Lack of Service Availability

Finding: A number of services (e.g. medical and dental care, eye examinations) were either unavailable or not available in sufficient quantities in many project locations. In general, the lack of available services rather than poor outreach activity is responsible for the low level of service delivery.

Recommendation: The Department of Labor should determine what services were unavailable that could be reasonably provided. It should then report to federal, state and local governmental agencies and other organizations on needs for additional migrant services so that appropriate agencies can work to provide these services whenever possible.

*In-season Placement in Programs to begin at end of Season

Finding: Little activity toward the objective of upward job mobility has taken place as yet. Northern states maintain that they cannot engage in counseling, placement in job training slots or placement in jobs until the end of the farm labor season. Since migrants rapidly depart at the end of the season, no time is left for placement activity then.

Recommendation: Though actual placement cannot occur until after the farm labor season, Northern states could include policy provisions for placing migrants during the season in programs which begin after the season ends.

RECOMMENDATIONS FOR MAXIMUM IMPACT OPTION

*Presented Sample

Finding: Efforts to maintain contact with a preselected group of migrant families as they move among various Northern state locations have not been particularly successful. A great deal of project effort and resources has been devoted to this activity, and the effort has not resulted in any substantial benefits for the families involved.

Recommendation: It is suggested that the E and D Project drop efforts to maintain contact with a preselected group and keep extensive family records, and devote the freed human and financial resources to more extensive outreach activity and providing funds for actual services. ROIs would thus work with all families in a camp. Information exchange among states would be substantially reduced: only in cases where a service could not be provided in one area, would the office of the migrant's next destination be informed. This would be most useful in cases where migrants wished to enroll in a training or education program in the home base area.

*Negative Attitudes

Finding: Negative attitudes toward the E and D Project on the part of some state E and D directors and local office managers have had adverse effects on the project.

Recommendation: The revised objectives of the program would significantly reduce the need for interstate and interoffice coordination within the Employment Service. Reduced coordination needs decrease the need for the project direction. It is therefore suggested that ROIs be granted more autonomy in their work, and that they use this autonomy to operate principally as links between migrants and other service agencies. The project coordinator/counselor would direct and coordinate the effort

as well as provide liaison to the Employment Service and develop new services.

***Service Agency Resistance**

Finding: There is a resistance on the part of many local and state service agencies to providing services for migrants who are not year-round community residents. This resistance is manifested in a variety of ways, from outright refusal to arrange services to making procedures and processing time for service arrangement beyond the ability of migrants to meet.

Recommendation: The Department of Labor on conjunction with State Employment Services should document cases of discrimination against migrants. Documentation should include information on what service agency is involved, where it receives its funds, and how migrants are excluded. The Department of Labor should report exclusions policies to those federal agencies who are involved in funding. If the appropriate agencies cannot rectify the situations, the Bureau of the Budget should be informed of fund misuse. Where legal questions are involved (e.g. in the enforcement of housing and wage regulations), the Department of Labor should work with the Department of Justice to bring pressure to bear concerning enforcement.

In cases where federal funds are not involved, the Department of Labor should encourage state Employment Services to initiate similar actions at the state level.

***Use of E and D Funds**

Finding: The program cost through the end of February, 1970, will be approximately \$780 per family. Little of this money has been directly applied to the costs of benefits for migrants. The great bulk of the money has been used for program staff, travel, supplies and communication. Secondly, the cost per service delivery arranged in Northern states averaged somewhat over \$600.

Recommendation: Ways should be sought to utilize project funds for purposes of direct benefit to migrants. Because of the reduced staff necessary to serve the same population size (resulting from dropping the maintenance of contract objective), funds could be made available for a variety of programs, such as:

1. Paying some or all of the costs of services provided by other agencies, thus increasing the incentive for those agencies to serve migrants.
2. Providing grants to groups of migrants who wish to provide some service such as improvement of camps, or developing of services upon receipt of an adequate proposal.
3. Providing low interest loans to migrants for direct profit small business investments.
4. Providing stipends for use by families which are settling out during the transition period from agricultural work to employment at a full-time non-agricultural job.

*Settling out as an Objective

Finding: Lack of clarity and lack of support of the objective of settling migrants out of the stream has lead to poor objective attainment of this area.

Recommendation: ROIs should be given greater freedom in working toward this goal. Procedures should be explored whereby the rate of settling out can be increased. These procedures might include more detailed survey of families concerning their settling out intentions, development of incentives for settling out, informing migrants of such incentive programs, and providing stipends for the settling out transition.

*ROI Temporary Duty

Finding: The utility of the ROI is not maximized by his presence in the Employment Service office. Some ROIs interviewed reported that they felt they could work more effectively toward meeting migrant needs if they worked at other locations.

Recommendation: ROIs should be assigned to temporary duty working out of delegate agencies such as Migrant Opportunities Centers. This practice would have the advantage of increasing the ROIs' abilities to work with these agencies and increasing the outreach capability of agencies which provide most of the services.

Migrant Labor and Scenarios of Government Operations during the 1970's.

In order to effectively aid the migrant population in dealing with its special problems, it is important to consider basic problems and ultimate government goals, as well as assessing current operations and recommending modifications of existing programs. A long-range theoretical analysis of the problem has the advantage of being unconstrained by the realities of present day politics and programs. Approaches can be considered which might not be immediately feasible under present conditions, but which, nevertheless, may represent the optimum methods of dealing with problems of the migratory agricultural labor force.

It is particularly important that this type of analysis be done for migrant-related activities, because this labor force is a population with the unique characteristic of high cyclical seasonal mobility which makes it even more difficult to deal with than other poverty income groups. During the decade now closing, for the first time there has been increased interest at the federal government level in dealing with the problems of migrants. The result has been the addition of several federal programs to the already existing (though generally inadequate and ineffective) state and local programs. The federal programs include the Public Health Service's Migrant Health Program, OEO's Community Action Migrant Programs (CAMPS), OEO's Migrant Opportunities programs, the High School Equivalency Program (HEP) for migrant children, and, of course, the Department of Labor's Experimental and Demonstration Program for South Texas Migrant Workers. Though the objectives of each of these programs differs somewhat from those of the others, there is necessarily some duplication of effort and waste of resources. Numerous times during the course of the present assessment, situations have been discovered in which representatives of several different

social service agencies and programs were competing for members of the migrant population. In one case, more than ten different agencies were working with migrants in one camp.

Such situations point up an interesting irony: although it is a foregone conclusion that presently available services are insufficient to meet migrant needs, present activities are inefficient and poorly allotted. The needs of migrants are too great to allow such a situation to continue unabated; yet, in many cases there is a competitive and uncooperative situation existing among the various agencies, with each seeking to establish that it has the unique capabilities necessary to deal with the migrant population.

From a theoretical point of view it may be agreed that such competition is inefficient and costly. There is an obvious need to consolidate or coordinate the efforts of various agencies, retaining the advantages of each while avoiding their disadvantages.

The question at hand thus becomes "What should be the structure, coordination and activities of government organizations for the migrant population?" The answer to such a question depends on several factors: 1) definition of migrant problems to be dealt with; 2) assumptions concerning the role of government in dealing with social problems; and 3) the projected situation with respect to other actors (e.g., migrants, employers, and unions).

In the course of its assessment of the Experimental and Demonstration Program for South Texas Workers, Abt Associates has identified a set of major problems facing migrant workers. Some of these problems are inherent in the present social system of agricultural labor; others are caused by actions towards migrants by other groups; and still others stem from projected changes in the migrant situation resulting from mechanization and other factors. The problems identified are discussed in other sections of this report. Briefly they are:

1. Below poverty level median incomes of migrant families;
2. Unethical and unfair practices relating to the distribution of wages to migrants;
3. Economic indebtedness of migrants to employers and crew leaders;
4. Declining job opportunities in migrant labor;

5. Loss of income due to surplus of labor;
6. Employer loss of income due to short-term labor shortages;
7. Lack of cooperation of some local and state agencies in providing services to migrants;
8. Poor health conditions and medical care;
9. Poor housing;
10. Inadequate education; and
11. Difficulty in making the transition from migrant work to other occupations.

Several assumptions should be made explicit in order to initiate government activities to deal with these problems. First, we may assume, with the National Advisory Commission on Rural Poverty, that "the United States today has the economic and technical means to guarantee adequate food, clothing, shelter, health services, and education to every citizen of the Nation."¹ The problems listed above are not to be taken lightly; solutions can and must be achieved in some manner or another.

Second, assumptions must be made about the role of government in dealing with social problems such as those listed. The Democratic administration just completed based its programs on the proposition that where various private sectors of our society had failed to deal with their problems, or had generated problems which they were incapable of dealing with, it was then the role of government to act to deal with such problems. The present Republican administration eschews such an active role of government and works to base its solutions to social problems on policies and programs which permit other sectors to operate more effectively to deal with their own problems. Let us then make two assumptions in order to develop scenarios: 1) the problems described above must be dealt with in some manner as part of our national priorities, and 2) the government's role in this activity should be to restructure the operation of various private sectors so that they may operate more effectively to deal with these social problems.

The situation which the government will face in the agricultural labor market may be extrapolated on the basis of present policies and

¹ The President's National Advisory Commission on Rural Poverty, The People Left Behind (Washington: U.S. Government Printing Office, 1967), p. xiii.

trends. Contemporary sociological theory² indicates that cultural and social changes are usually adjustments to changes of a technological or economic nature. Though economic change cannot be easily predicted because it is largely shaped by private practice and public policy, technological change can be characterized as a monotonically increasing function (see Figure 2.1). This is because technology acts to decrease operating costs per unit of demand (increase efficiency), and because within a given problem area, resources devoted to research and development

Measure of technology
and applications in a
system.

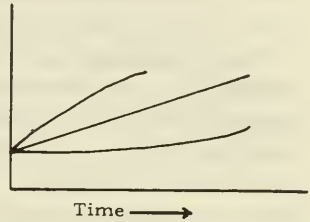


Figure 2.1:
Examples of Monotonically Increasing Functions

plus the various spinoff and feedback effects of technological innovation yield fairly constant change rates of technological impact.

Although actual data on degree of mechanization is presently unavailable, the trend is nevertheless clear: mechanization will continue over the next decade to decrease the overall demand for migrant labor and increase the demand for skilled migrant and year-round labor. There will still be residual needs for unskilled migratory labor, but by 1980, the great bulk of American crops (one estimate is 90%)³ will be machine-harvested.

²See especially William F. Ogburn, On Culture and Social Change (Chicago: University of Chicago Press, 1964).

³Joseph Kasper, speech at the Chicago meeting of E & D personnel, July, 1967.

⁴See, for example, J. Zvi Namenwirth, "Short and Long Term Trends in American Political Values: A Content Analysis of 64 Political Party Platforms," (unpublished paper).

Several other trends can also be projected. According to the Texas Employment Commission, there is presently under way a migration of skilled farm hands to urban areas in Texas. This trend is likely to continue in other sparsely populated states as they continue to industrialize during the coming decade. Thus, there will be a continuing demand for skilled farm workers during the 1970's.

One other trend seems both projectable and worthy of note: migrant workers during the coming decade will continue to move toward political and social consciousness. Studies of changing value concerns in American society⁵ indicate that the United States is presently undergoing a transition from concern with the problems of the economy and distribution of wealth (a concern that has been dominant since the 1920's) into an era where the concern is more with the distribution of power and control over destiny of individuals and various social groups. This concern is evidenced by the increasing political and organizing activity of various groups which consider themselves disenfranchised: blacks, Puerto Ricans, students and youth, Indians, and Mexican-Americans. Because of increased access to information independent of established media, these various groups have been formulating analyses of their respective situations and seeking ways of promoting and protecting their interests in those situations. It is more than likely that this increased concern with power will continue through the 1970's, with the migrant population as well as with other groups.

On the basis of these projections, a scenario for the coming decade might be as follows: Mechanization will lead to increased rates of unemployment at the very time when migrants are beginning to develop political consciousness. Differential rates of mechanization in various crops will disrupt present seasonal sequences of migrant employment. Since migrants will be increasingly aware of the affluent society around them as well as the activities of other disenfranchised groups, these conditions will generate increasingly greater dissatisfaction than presently exists. Expectations will be rising at a time when total opportunities are declining. Resistance to social change will remain strong in the locations where migrants live--i.e., in South Texas and in the rural regions of the North. Migrants especially Mexican-Americans, will continue to be discriminated against and excluded from the mainstream culture.

The scenario described above does not include two crucial variables which will operate in the agricultural labor situation: 1) the activities of labor unions, and 2) governmental responses to the emerging conditions. Both of these factors will largely depend on government legislation concerning union organization of agricultural workers. The unions will perform very different functions depending on whether they have to continue the fight for the right to organize, and the required role of government will depend in great degree on how successful unions are. These alternative situations are depicted in Table 2.2. Thus, two alternative scenarios emerge within the context of the general situation in the 1970's:

I. Barriers to unionization situation. In the case where the government does not allow farm labor unions to come under the National Labor Relations Act or similar legislation, increasing unemployment and other structural problems lead to increased migrant dissatisfaction with their social conditions and increasingly radical activities by unions in attempts to gain recognition and the right to bargain collectively. Since there would be no ongoing

<u>Governmental Approach to Unionization</u>	<u>Functional Activities of Unions</u>		<u>Government Services to Migrants</u>
I.	No legislative action	Continuing attempts to gain recognition. No benefits for workers.	Sufficient services to deal with entire range of migrant problems.
II.	Legislation providing for union organization.	Organizing, negotiation of contracts, establishment of benefits	Residual services not provided by union.

Table 2.2
Consequences of Two Government Approaches to Attempts
at Unionization of Migrant Approaches

union serving migrants, governments would be faced with the choice of either providing the institutional framework necessary to serve migrants' needs or accepting the costs in social tension and dissatisfaction if needs are not met.

II. Unionization situation. In the event of passage of legislation permitting migrant workers to elect representatives for collective bargaining purposes, a union would emerge as an institution advocating the interests of migrant workers. Federal legislation and regulations impinging upon this union could have substantial impact on the responsiveness of the union to its workers and their needs. With effective legislation, the farm workers' union could emerge as an organization capable of protecting migrants' rights, advocating their interests and serving their needs through collective bargaining, negotiation on working conditions, and programs such as medical insurance and retirement plans.

Table 2.3 presents a chart displaying present and projected problems facing migrant workers, reasonable objectives with respect to those problems and types of solutions possible under the conditions of Scenarios I and II described above. As the chart indicates, a greater governmental involvement will be required under the conditions of Scenario I (Barriers to unionization) than under Scenario II (Unionization). This is the case because unions can provide the solutions to the present powerlessness of migrants which is the key factor in many of their problems. Unionization would protect the migrants from unfair practices by employers. In addition, it would provide migrants with financial resources sufficient to deal with many of their problems on their own. Finally, unions provide a natural organizational structure for the instigation of benefit programs such as loan funds and medical insurance. These functions would have to be carried by governmental organizations should unions be prevented from organizing.

⁵Seymour Martin Lipset's book, Union Democracy (Garden City, N.J.: Doubleday, 1962) provides an interesting discussion of the factors affecting the democratic tendencies of union organizations.

<u>Present and projected problems facing migrants</u>	<u>Objectives</u>	<u>Solution approaches under Scenario I (Barriers to Unionization)</u>	<u>Solution approaches under Scenario II (Unionization)</u>
Below poverty-level income	Eliminate migrant poverty. (Increase family incomes to greater than \$3000/yr.)	Government-subsidized non-profit migrant corporation	Union function
Exploitation of workers through wage payment methods	Provide a rationalized system for wage payments, deductions, and bonuses -- one which minimizes employers' non-contractual control and makes all deductions explicit	Payment of migrant wages through a government-funded agency	Union function
Indebtedness to employers; lack of independent resources for emergencies	Provide a mechanism independent of employers or crew leaders whereby a migrant can obtain funds for emergencies	Migrant Loan Fund	Union function
Loss of income due to surplus labor supply situations; hardship to growers due to temporary labor shortages	Maximize migrant efficiency during migration (increase number of days of work/number of days of migration); allocate labor more efficiently so as to avoid surpluses or shortages	Centralized labor information exchange system providing optimal scheduling, labor allocation, and information dissemination*	Centralized labor information exchange system providing optimal scheduling, labor allocation, and information dissemination
Lack of sufficient supportive services for migrants; refusal of some local and state agencies to provide equal treatment for migrants	Increase services available; enforce equal treatment or provide new service agencies independent of local control	Federally funded and operated consolidated service agency for migrant workers	Partial union function. Residual needs served by target group oriented social service agency

*cont.**cont.**cont.*

Table 2.3

Migrant Problems, Objectives and Solutions in Two Scenarios for the 1970's

(* indicates proposal in Appendix II.)

<u>Present and projected problems facing migrants</u>	<u>Objectives</u>	<u>Solution approaches under Scenario I (Barriers to Unionization)</u>	<u>Solution approaches under Scenario II (Unionization)</u>
Poor health and inadequate medical care. Inability of migrants to finance medical care	Upgrade migrants' access to and ability to finance medical expenses	Medicare program or major expansion of Migrant Health Program	Union function
Substandard housing; poor sanitary and public health conditions	Insure the adequacy of migrant housing	Self-help housing. Extension of federal subsidies of migrant housing to non-farmer groups (service agencies, private enterprise)	Self-help housing. Extension of federal subsidy of migrant housing to non-farmer groups (service agencies, private enterprise, unions)
Low levels of educational attainment among migrants	Provide grade equivalent education for all migrant children	Intensive seasonal schools	Intensive seasonal schools
Barriers to settling out of migrant stream	Provide a basis for leaving migrant stream which overcomes skill, language, cultural, geographic, logistical barriers	An integrated program featuring job training, placement, community integration, housing, transitional subsidies	An integrated program featuring job training, placement, community integration, housing, transitional subsidies
Impacts of mechanization: --reduced employment --higher skill requirements	Encourage the transition to year-round skilled farm jobs, within one geographic locale. Provide migrants with necessary skills	MDTA programs for jobs in mechanized agriculture	MDTA programs for jobs in mechanized agriculture

Table 2.3
(contd.)

Given the problems and objectives, functions served by government under the two scenarios have been shown to differ. Since effective organizational structure differs according to functions served, it is appropriate to consider the shape of government operations separately for the two scenarios.

GOVERNMENT OPERATIONS UNDER SCENARIO I (BARRIERS TO UNIONIZATION)

Under the conditions of continued barriers to unionization, a broad spectrum of operations and services would have to be provided for migrants in order to effectively deal with their situation as described above. These activities are outlined in Column 3 of Table 2.3.

A government organization to effectively implement all such activities would have to be designed with three major criteria in mind. First, because local power structures and particularly non-migrants service agencies often act to impede service delivery to migrants, the organization would have to operate independently of local control and have its own resources for serving migrants. Independence from local control would appear to be the only way to protect the migrants' interest from being swallowed up by other more established interest groups. Second, because of the unique characteristics of this population--their language barriers, high geographic mobility, long working hours during the harvest season, isolation in migrant camps, and lack of community ties or knowledge of areas where they work--it is important that any organization to serve migrants should be designed so that 1) as many services as possible will be under one roof, and 2) services which are run by the organization be geared to the special timing (seasonal and daily) needs of migrants. Third, because of the high mobility of migrants, an effective organization to serve them must operate as a system with similar and coordinated components in different geographic locations. Although formation of such an organization would lead to duplication of administrative costs with other service agencies, it would also yield more effective use of service resources both for migrants and non-migrants.

A government organization with the three characteristics described above (independent, multi-functional; interstate system) could provide any or all of the following services:

1. employment of migrants;
2. contracting with employers to provide labor;
3. allocation of the migrant pool in such a way as to maximize employment and work efficiency;
4. health and medical insurance program;
5. migrant loan fund;
6. self-help housing program;
7. migrant camp housing subsidies;
8. job training and placement program;
9. supportive services; and
10. settling out assistance.

Although the federal government may have neither the desire nor the resources for engaging in all of these activities, solution of the problems facing migrants in the barriers to unionization situation will require some degree of effort in each activity area. Given the need for these activities, the government could respond in a variety of different ways, with different mixes of programs and different organizational structures for program operation.

The example which follows illustrates a conceivable governmental organizational response that addresses itself to all the needs of the migrants but where there is no unionization. One response to the problems would be to form a non-profit, government-subsidized cooperative corporation independent of present government agencies. This corporation would act as a clearing house for migrant employment--similar to the private temporary manpower employment agencies. It would meet the design constraints of independence, multi-functional operations, and interstate system components. It would provide a broad range of services to both employers and employees. Among other functions, it could relieve farmers of the burden of providing housing for workers, provide migrants with subsidies (less than working wages) for periods when they are available for employment and there is no work, and work to encourage the transition towards long-term geographically stable employment. Such an organization would not necessarily have to provide all services in-house. Regular job training and adult basic education programs could be utilized. But it seems essential that firm commitment of entry slots for such programs be negotiated between the migrant organization and other groups. Similarly, though a migrant organization serving a given geographic locale would not necessarily have to employ a full-time lawyer for legal assistance or a full-time doctor, routinized procedures for

obtaining such services should be worked out. In all cases where it was decided not to provide services in-house, funds should be available for obtaining those services from other sources. In some cases, such a procedure would be far more efficient. Care should be taken in developing procedures for services and other compensations so that the reward structure operates to prevent migrants from becoming welfare-dependent persons. The program should work to increase self-reliance wherever possible. Finally, the organization should be run by migrants and former migrants. It can thus act as a school for managerial experience where migrants can learn skills necessary to acquire positions in other business organizations. More basically, it will provide additional jobs for a group with a very high unemployment rate and give migrants the dignity of having some power over their own domain.

GOVERNMENT OPERATIONS UNDER SCENARIO II (UNIONIZATION)

Should unionization occur, the federal government will play a somewhat reduced role. One of the primary activities will be formulation of policy regulating union relations with growers and food processors. If unions develop as effective collective bargaining agents within the framework of these regulations, a number of problems presently facing migrants will be eliminated. Moreover, the seriousness of all problems will be significantly reduced. This is because unions will boost migrants' incomes and rationalize their relations with employers, and this change will have a spinoff effect on the various social problems (health, legal problems, housing) usually associated with poverty.

Under these conditions the various government functions would be as follows:

1. centralized labor information exchange;
2. an integrated program for job training, placement and resettlement;
3. supportive services;
4. self-help housing;

Since the population needing supportive services would be greatly reduced (migrants would be able to afford their own) and since self-help housing in an endeavor requiring special expertise, both of these functions could be handled independently of a migrant labor organization, with only coordination and referral activities necessary. The other two functions are clearly within the mandate of the Department of Labor and associated state

employment services. To be effective in performing these functions, the Department of Labor would have to 1) provide an arrangement for more formal coordination between state rural manpower services in use of a computerized information exchange system; and 2) develop a special program concerned with handling the resettlement of migrants to other occupations. Such a program would differ only slightly from the present E and D Project. Differences would lie in the degree of control of training programs, the types of services used to ease resettlement, and the removal of present constraints on effective operation as discussed in recommendations outlined in the previous sections.

SUMMARY

Problems facing the agricultural labor market will continue to intensify during the coming decade due to a declining job market and a large pool of unskilled laborers. The type of governmental response necessary in such a situation depends largely upon whether unions are permitted to hold elections and engage in collective bargaining for migrant workers. Should unions form, governmental functions will be largely those of 1) reducing barriers to occupational mobility, and 2) providing an information exchange system to aid in the efficient allocation of migrant labor. On the other hand, if unions do not organize, the government will have to deal with not only the problems of information exchange and resettlement, but also with a much broader range of problems caused by the poverty existence level of migrant workers and its concomitant problems of powerlessness, ignorance, and poor health. The increasing political consciousness of the migrants themselves will necessitate a meaningful government response in either situation. In the case of barriers to unionization, the government will be providing ameliorative action for problems but will have little influence on the nascent changes in the social world of migrants resulting from attempts to unionize. If, on the other hand, barriers to unionization are reduced, the government will be in a position to influence the direction and impact of that change.

Mr. WEBER. I must say I am pleased to see a little restraint in our evaluation reports.

Senator MONDALE. I agree with that.

Mr. WEBER. The history of manpower programs is oversell and underdelivery as we all can see. The program is now entering its second year. In its first year, it was largely concerned with identifying the problem, developing contacts, and providing counseling service to the migrants.

The second year will involve a concerted effort to deliver manpower service to these people, to move them into the industrial sector. So, in a way, it is encouraging that we have been able to identify this group and get an administrative handle on it, but the extent to which we will be able to deliver is still an open question.

Senator MONDALE. Is that a program that you directly run?

Mr. WEBER. Yes, sir.

Senator MONDALE. You agree that we have to know the truth about these programs. The evaluations indicate that in the first year, the program contacted only 54 percent of the families. Cost for delivering of service was high. Only eight migrants were placed in nonagricultural jobs, only 49 workers were placed in Texas. Only 25 families had settled out in Northern States. You are familiar with the survey—

Mr. WEBER. I am not disturbed by that too much. It is at the beginning. This is sort of a first movement out of production process. It is a federally initiated and run program involving 10 State agencies. You had to develop complicated administrative procedures.

Senator MONDALE. What kind of resources are you applying? What would be the estimated expenses?

Mr. WEBER. \$750,000 the first year, plus obviously it brought into play the existing resources of the 10 State employment service offices. But it is funded at \$750,000.

Incidentally, Senator, this is out of a total E. & D. budget of approximately \$15 million. In other words, around 8 percent of our resources in that area.

Secondly, the job bank. The job bank is a new development in employment service operations which will ultimately give migrant workers greater access to employment opportunities outside the migrant stream.

In the Baltimore area, which served as prototype for this system, all ES counselors and interviewers in the area, plus some 20 cooperating agencies, are provided with a daily computer printout of all job openings listed with the ES or the cooperating agencies.

The result has been a sharp reduction in pointless referrals and visits to employers and a sharp increase in placements of disadvantaged applicants. The heart of the system is the job bank book, reproduced directly from the master computer printout. It contains a listing of both job openings and apprenticeship and other training opportunities. Each morning, copies of the book are put on 50 different desks in the ES central office and 15 or more outreach stations throughout the Baltimore area.

Plans are already underway to extend job banks to rural areas. The Maryland agency has recently started to produce a job bank which covers job openings in several small towns. Books will be regularly distributed to selected OEO offices at designated rural locations and serviced by itinerant ES personnel.

For the first time, on an organized and continuous basis, rural areas with limited employment prospects will have access to all job opportunities in local and contiguous urban areas of Maryland.

Some of the 75,000 agricultural migrants originating in the Rio Grande Valley and the 30,000 who migrate from Florida have expressed a desire to settle in the Northern States to which they travel yearly. The availability of job bank books at their point of origin and points of employment in the Northern States could be a useful tool for counseling, and actual job offers.

Senator MONDALE. Has that been used with migrants yet?

Mr. WEBER. Not yet. I think it is important to note the job bank is an exciting development and we think it will really deal with this basic deficiency that you find in all labor markets, that is deficiencies of information. We had one job bank last January. The administration made a commitment to have 55 by the end of fiscal year. Presently, we have 13. We think we will have 41 more, all 55, by September. The 13th just opened in Minneapolis-St. Paul.

Senator MONDALE. That is an appropriate ratio.

Mr. WEBER. There are 13 of them.

This is the basis of building up to a national system. For example, in California, we are going to have six, we hope, by next September, and clearly, to the extent that this sort of information is now in—

Senator MONDALE. Are they going to be plugged in together so that Texas will be plugged into Minnesota, and that sort of thing?

Mr. WEBER. Ultimately.

Senator MONDALE. How long will that take?

Mr. WEBER. I am hard pressed to venture a guess. I would say our planning horizon on that would be 2 or 3 years.

Senator MONDALE. Do you have any special efforts as part of this computer bank approach to concentrate some part of it on the special problems of migrants?

Mr. WEBER. In a fairly direct way, yes. That relates to the third problem that I want to discuss with you that is so-called Ottumwa project. That is a way of improving delivery of employment service to rural areas. We are putting it into effect, one in each of our 10 regions. The one in the Southwest and the one in the Mountain States region will have capability of providing service to migratory workers and particularly Mexican-Americans.

Let me briefly talk about that, if I may, Senator.

An experimental program conducted in southeastern Iowa by the public employment service has established a pattern for opening up a wider range of nonfarm job opportunities to farmworkers, including migrants.

Prior to the project, a 12-county rural area in Iowa was served by four small local public employment offices, each responsible for a

specific geographic location. The project replaced this arrangement with the establishment of a "central" office, located in Ottumwa, the economic and commuting hub of the area, and the designation of the four "satellite" or "feeder" offices, responsible to the central office.

Job orders and applications taken in the feeder offices were held for a period of 24 hours and then transferred to the central office. This gave both applicant and employer access to opportunities available over a much wider geographic area, and made available to the worker, particularly, a broader spectrum of farm and nonfarm job openings.

In view of the success of this project, similar programs are being launched in the 10 administrative regions of the Department's Manpower Administration.

Senator MONDALE. Do you know how many migrants are served by this program?

Mr. WEBER. Probably very few.

Senator MONDALE. Do you have any kind of evaluation or reports?

Mr. WEBER. Yes.

Senator MONDALE. Are there any we can look at?

Mr. WEBER. Yes, sir; a rather weighty report.

Senator MONDALE. Would you submit one for the record. We would appreciate seeing it.

(The information subsequently supplied follows:)



BREAKTHROUGH

rural manpower services



Final Report - Ottumwa, Iowa Experimental & Development Project

This report on a special manpower project was prepared under contract with the Manpower Administration, U.S. Department of Labor, under the Authority of the Manpower Development and Training Act. Organizations undertaking such projects under the Government sponsorship are encouraged to express their own judgment freely. Therefore, points of view or opinions stated in this document do not necessarily represent the official opinion or policy of the Department of Labor.

**BREAKTHROUGH IN
RURAL MANPOWER SERVICES**
**FINAL REPORT OF THE OTTUMWA, IOWA
EXPERIMENTAL & DEVELOPMENT PROJECT**
Iowa Employment Security Commission

U.S. DEPARTMENT OF LABOR
DEPUTY ASSISTANT SECRETARY FOR
MANPOWER AND MANPOWER ADMINISTRATOR
WASHINGTON, D.C. 20210



The extensive publicity and attention given our troubled urban centers have, for the most part, overshadowed the equally serious social, economic, and manpower problems of rural America. This has been unfortunate since the problems of rural and urban areas are not mutually exclusive, but have a cause and effect relationship. The problems of rural America have contributed largely to the present dilemma of our cities.

The Ottumwa E&D Project is representative of the growing awareness of this situation. The project was an attempt to find more effective ways of bringing limited resources to bear on manpower problems in a rural area. I commend the Iowa Employment Security Commission for conducting its project in a working situation rather than an ivory tower, and for making the many painful decisions in realigning lines of authority and communication.

The best recommendation for any experimental project is how the results are utilized. The Ottumwa experiment speaks eloquently for itself--the Iowa Employment Security Commission has retained the area concept organization in Ottumwa and is making plans to reorganize the entire employment service in Iowa on the Ottumwa model. I encourage every person in policy-making positions in the employment security system to give this report his careful consideration.

A handwritten signature in dark ink, appearing to read "Malcolm R. Lovell, Jr.", is positioned above the typed name.

Malcolm R. Lovell, Jr.
Deputy Assistant Secretary for
Manpower and Manpower Administrator

FORWORD

by Arnie Solem

The Ottumwa Experimental and Demonstration Project was designed several years ago to find solutions to several serious problems facing those who provide manpower services to people in small towns and rural areas. There was the overall problem of providing a full range of services at a reasonable cost. Another set of problems has grown out of the technological revolution in agriculture. While large scale operations benefited those able to enlarge their farms, those with small acreages were often driven to supplementing their farm income by commuting 50 miles or more to work. The competitive drive for efficiency permitted few communities to enjoy adequate health facilities, schooling, libraries or the means of acquiring a skill. Many rural people were ill-equipped to get ahead in the growing cities. Some of them became the rural poor and some added to the fast growing ranks of slum dwellers and people on welfare.

Although major programs such as the soil bank gave farmers more time to adjust to technological change, this benefited mainly the owners of land as distinct from employees or renters. Rural youth who had educational opportunities were generally able to make a good adjustment. Young men without a skill, however, found fewer and fewer opportunities in the cities. Our studies revealed that many were afraid to go unprepared into urban centers and with good reason. Little attention was paid by successive administrations to the problems of rural youth until they became problems of urban areas. When the massive migration of rural people to the cities led to riots and soaring welfare costs, a whole battery of new, and generally excellent programs, was developed to help the now urban poor make some kind of adjustment.

There was recognition that the source of many problems of the urban poor were generated in the rural areas, but little was done to apply remedies at that point. The rural poor were scattered, unorganized and without leadership while dramatic and militant demands for remedial measures came from the urban areas. It was argued, also, that it would be too expensive to carry on the kinds of manpower programs in rural areas that were being developed in the cities. Techniques, such as personal outreach, did not fit rural settings in the same way as they did urban areas.

Although the growing manpower legislation had many good provisions in terms of content, it was difficult to administer. The new focus on making the disadvantaged employable required a wide range of services such as training under the Manpower Development and Training Act, recruiting and screening Job Corps candidates and finding jobs for graduates, operating Youth Opportunity Centers, and similar new activities.

Most of our 1200 local employment offices are small town and rural area offices where the work loads do not lend themselves to specialization. It is wasteful of scarce talents to have a high grade counselor work only a few hours a week at his profession. Nevertheless, specialized services, such as counseling, are needed. The remainder of his working time might have to be in routine activities. Salaries for counselors in most States were also comparatively low. It was difficult to recruit and train people who could span a wide range of program areas such as were generated by the new legislation.

To sum it up, the numerous small offices scattered throughout the country were severely handicapped in providing the many new and specialized services needed to prepare the disadvantaged for better employment. Community services in the way of health, basic education and the like were frequently not available in the areas served by small offices. Organizations such as those concerned with welfare, vocational education and other community agencies were usually located in the larger towns. Any attempt to consolidate offices and to eliminate those that served too small an area met and still meets fierce resistance in these days of declining small towns. Appeals are made to the State and Federal political structure, which makes the closing of offices impractical.

It was in the midst of this situation that the Ottumwa Project was conceived. Might it not be possible, for example, through the use of modern methods of communication to inform the rural poor who were scattered throughout the rural areas of the opportunities for skill training and jobs? The new job markets or "functional economic areas", stretching 50 miles or more from a "central city" had now become a practical operating area. The automobile made it possible for people to commute 50 miles or more to work, to shop or for recreational purposes. Why could they not commute equally far for manpower services? Services could be extended in an organized way to those unable to do so. In most instances a fairly large central city was located within this large labor market area, which could be the hub of a new method of providing a wide range of manpower services at a reasonable cost. It was not necessary to close small offices. By establishing an area office and converting the small outlying offices to "satellite" offices of the larger centers, the staff of the whole area could be deployed without antagonizing the people concerned about losing their employment office.

Simple as it might seem to test out answers to these problems, there were many serious barriers that the personnel of the Iowa Employment Security Commission had to overcome. Not only were State salaries low but tenure was very limited. Specialized staff, such as the labor economist, the communications research man and the counselors, were difficult to recruit.

It is a real tribute to the Project staff that the Ottumwa Project became such an outstanding success. Personnel in charge of the administrative office of the employment service in Des Moines, such as Jerome Corbett and Ken Hays, provided excellent leadership. William Hood, who was in charge of both the area office and a mobility project, contributed many of the good features that came out of this experimental Project.

Evaluations based on the cost per individual served and the quality of service leads us to conclude that the major objective was met in full measure--that methods were developed for providing quality manpower services to people in small towns and rural areas at a reasonable cost.

ACKNOWLEDGMENTS

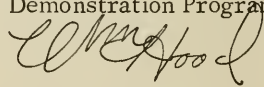
The development and execution of the activities carried on by the Ottumwa Experimental and Development Project and the preparation of this report on those activities required the direct and indirect cooperation and assistance of a great many individuals; the contributions of only a few can be formally acknowledged. Credit for the inception and nurturing of the basic concepts expressed in, and explored through, the Project belongs to Mr. Arnie Solem, former Administrator of Region VI of the Department of Labor's Bureau of Employment Security. The support and assistance provided by Mr. Solem during the preparation of this report is also acknowledged.

To a large degree, much of the success the Project attained is to be attributed to the efforts of the national staff of the Manpower Administration. The constructive criticism and the operational suggestions provided by this staff kept Project attention focused on the areas and activities where positive results would have the greatest effect. The contributions of this staff to the format and the content of this report also were greatly appreciated.

Without the cooperation of the Iowa Employment Security Commission, and the active assistance of the Employment Service Director, Jerome Corbett; the Chief of Local Office Operations, Kenneth Hays and the Chief of Administrative Services, Erwin Frerichs, the Project would not have been possible. The further assistance of Mrs. Cheryl Moses and Tom Weinman of the IESC Information Services Department in the preparation, reproduction and dissemination of this report is also acknowledged.

Finally, the contribution made by a dedicated and resourceful staff most certainly must be noted. The ideas and the effort contributed both by satellite office staff members and by staff assigned to the area office strengthened Project operations greatly. In fact, credit for whatever success the Project experienced ultimately rests with this staff--with the individuals who actually did the job.

In closing, it is to be noted that the Ottumwa Project was funded under Title I of the amended Manpower Development and Training Act of 1963, out of the allocation for Employment Service Experimental and Demonstration Projects administered by the Experimental and Demonstration Program Office of the Manpower Administration. The funds and the authority to experiment granted by this Act made the Project possible. The interest and the active assistance of the Experimental and Demonstration Program Office made it profitable.



by Bill Hood

CHAPTER 1

THE OTTUMWA PROJECT—AN OVERVIEW

The Project

The Ottumwa Experimental and Demonstration Project was initiated to develop more economical and more effective ways for delivering comprehensive manpower services to residents of rural areas. The Ottumwa Project involved a fundamental restructuring of rural Employment Service operations--development of more effective ways of delivering effective services required bringing the service delivery system into greater harmony with the demands made by changed and changing rural labor market conditions and socioeconomic patterns. The Ottumwa Project, which was funded under Title I of the amended Manpower Development and Training Act of 1963, was administered by the Iowa Employment Security Commission under contract with the Manpower Administration Office of Special Programs. The Project lasted two years and began operation in October 1966.

The Rural Environment

That rural America, as much as the more urban areas, has felt the impact of technological change and is experiencing the consequent social and economic dislocation is widely recognized. Everyone knows advanced agricultural technology has sharply reduced the need for farmhands and for farmers. Sometimes, though, the degree to which this is happening can be astounding.

For example, an unpublished 1965 Iowa State University study indicates a 57 per cent reduction in the number of farms in Southeastern Iowa would be necessary if the size of the average farm in that area were to be economically competitive today. It is equally well-known that changing technology has also affected other rural industries. The closing of the rural mines in Appalachia, in central Iowa, in northern Missouri and in the Rocky Mountain States is just one example. Both agricultural and nonagricultural industrial obsolescence has become a common rural malady. The inevitable consequence of this industrial obsolescence is pools of unemployed and underemployed workers poorly equipped to find work in other industries and in other areas. In short, many of the employment outlets offered by yesterday's rural economy are disappearing.

On the other hand, the technological revolution has had its beneficial effects in rural America as well. The agricultural technology, which so adversely affects demand for farmhands and for farmers, has opened vast new opportunities in the agri-business field. Advanced technology has also brought rural electrification, automobiles and better highways. With these have come broadened horizons and increased individual mobility for residents of rural areas. The result has been a fundamental change in the rural socioeconomic environment. Center cities, with a dominance derived from their ability to deliver relatively wide varieties of goods, services and employment opportunities have emerged. These center cities have led to the development of area labor markets which extend miles into the countryside and which incorporate and encompass the geographically smaller labor markets of former years. Dr. Karl Fox of the Department of Economics at Iowa State University has studied this changed socioeconomic environment and has identified and documented the emergence of what he calls "Rural Functional Economic Areas". According to Dr. Fox, these Functional Economic Areas are relatively large multi-county units which exhibit the basic characteristics of an organized economic layout.

The emergence of the Functional Economic Area has received more than academic recognition. For example, in Iowa voluntary multi-county economic development programs, initiated and widely participated in by the private sector of the economy, have developed. TENCO, as the first, is probably the most famous of Iowa's multi-county economic development programs. However, a total of eight such multi-county organizations now are functioning in the State. Recognition of the reality of the Functional Economic Area has progressed to the point where Iowa's former Governor approved a proposal which will divide the State into 16 such areas for all state governmental functions. Similar proposals have been made in Pennsylvania and Nebraska as well as in a number of other states.

Area Organization

The Ottumwa Project was undertaken to develop ways of strengthening the ability of the Employment Service to function effectively in this changed rural socioeconomic environment. In the Ottumwa Project, four previously independent and relatively small rural Employment Service offices, located within a single, 12-county Functional Economic Area, were merged into a single operational unit.

An area manager was appointed and, although managers remained in the satellite local offices because the project was of limited duration, responsibility for all Employment Service activities in the area were centralized in the area office. The individual administrative areas of the respective satellite offices were abolished except for reporting purposes and the area manager assumed responsibility for directing the development of interagency relationships and the cultivation of areawide community support. To tie the four satellite offices and the area office together and to provide for the unrestricted communication necessary for efficient operation with dispersed operating units, a leased line telephone communication system was introduced. Leased line communication permitted management and technical personnel to operate from any part of the territory equally effectively and to always be immediately accessible to satellite office personnel. Before the introduction of adequate communication facilities, effective coordination of areawide activities had proved almost impossible.

Fully developed, project operations featured both the centralization and the decentralization of Employment Service activities. Generally speaking, "extensive services"--services requiring direct contact with large numbers of individuals--were decentralized while "intensive services"--services delivered by technical specialists or having areawide impact--were centralized. As a consequence, responsibility for outreach, intake, local job development, placement and employer relations activities in the counties having regular Employment Service facilities were decentralized and assigned to the satellite offices. Satellite office personnel were also responsible for identifying unmet manpower needs in their counties and for communicating this information to the area office.

To further decentralize intake and outlet activities, outstation centers were established in cooperation with county Community Action Agencies and other appropriate public organizations in the eight counties without regular Employment Service facilities. By formal agreement, sufficient Employment Service training was given to cooperating agency personnel to enable them to perform Employment Service outreach, intake, placement and follow-up activities. Consequently, though regular Employment Service personnel served the outstation centers only one day a week, full-time Employment Service manpower services were delivered in these eight counties. The professional Employment Service personnel assigned to the individual outstation centers on the one-day-a-week schedule were responsible for outreach, intake, local placement, follow-up and manpower need identification activities in the individual counties and responsibility for general supervision of the individual outstation centers was delegated to the satellite office manager whose office was geographically closest to the outstation center. Successful Employment Service outstation center experience led to the assignment of representatives of other manpower-oriented agencies to the centers on a regularly scheduled basis and county multi-agency service centers evolved as a direct result of Employment Service initiative.

To provide opportunity for staff specialization and for the development of program depth, "intensive service" activities were centralized in the area office. To facilitate the delivery of the "intensive services", three operational units were formed within the area office.

The largest group of centralized functions were those concerned with employability development--counseling, selection and referral to training, Job Corps recruitment and the service programs for special applicant groups. Responsibility for these activities was assigned to the Employability Development Unit which was coordinated by the chief counselor.

The interarea job development and placement function, augmented by a labor mobility project and regarded as an intensive job development and placement program, was the prime responsibility of the Area Placement Unit which was coordinated by the area placement specialist. Job development and placement services for clients served by the Employability Unit and for those applicants the satellite offices and the outstation centers proved incapable of placing locally were performed by the staff assigned to this Unit.

Finally, responsibility for the collection and dissemination of labor market information and for public relations and public information activities were centralized in the Community Relations Unit, coordinated by the community coordinator. Since industrial service and employer relations activities were undertaken only in direct support of job development and placement efforts, responsibility for these activities were delegated to the satellite offices and the outstation centers which, together, constituted the fourth operational unit, the Field Services Unit. This Unit was under the direct supervision of the area manager.

Area Operations

To facilitate operations and to assist in the coordination of the activities of the four operational units, centralized applicant and job order files were established, consisting of duplicate copies of all application records and employer job orders from both the satellite offices and the outstation centers. Besides providing Employability Unit personnel with the means for identifying individuals whose need for intensive services had not been recognized by Field Services Unit personnel, the centralized applicant files enabled both Employability Unit and Field Services Unit personnel to have immediate, simultaneous access to basic applicant information. Problems developing in the course of carrying out the individual plans of service for particular applicants could be quickly and effectively discussed by telephone without the delay of mail transfer of records.

The centralized applicant and job order files were also extensively utilized by the Area Placement Unit. Regular interarea placement procedures were suspended within the area and, through extensive use of the leased line telephone facilities, regular file search, selection and referral activities were pursued on an areawide basis. Regular interarea placement procedures were also suspended between the area office and selected employment service offices outside the area. The centralized applicant files became the basis for extensive and effective interarea telephone job development activity. The centralized applicant and employer order files provided the basis for the direct exchange of job opening and available applicant information between the area office and these selected offices outside the area. The centralized applicant file also contributed to the Area Placement Unit's effort to encourage positive recruitment by employers from outside of the area. Areawide data, by showing the depth of area manpower resources, proved to be very enticing to recruiting employers. In addition, the centralized files proved to be a valuable source of current, areawide job opportunity, employer recruitment and wage rate data for the use of the counselors and Community Services Unit personnel, and of current, areawide applicant availability information for the use of placement and employer relations personnel.

Finally, the centralized files permitted the introduction of an "individual applicant" approach to measuring services. Briefly stated, the methodology used to develop "individual applicant" data was to relate the services performed and the results achieved to individual applicants rather than to separate totals of applications, referrals, placements and other transactions. Through the use of electronic data processing equipment and techniques, "individual applicant" data provided insight into the quality of the service performed rather than simply a running total of the numbers and types of transactions completed. For reporting purposes and in the interest of measuring the impact of the changed procedure introduced during the Project, "transaction data" was also accumulated.

Not infrequently the difference between "total transactions" and the actual services provided to individual applicants were nothing less than astounding. To illustrate, when pre-project records were translated into "individual applicant" data, only 6,627 individual applicants accounted for the 10,037 applications active in the four Employment Service offices in the area during the year before the Project.

Introduction of an "individual applicant" approach to data collection had made two facts abundantly clear. In the first place, the Employment Service was not actually serving nearly as many area residents as transaction data made it appear. Secondly, and even more astounding, 3,400 individuals or over 50 per cent of the total applicant clientele served by the four offices had expressed interest in interarea placement by registering for work in at least one other office besides the one closest to their residence. That this many applicants went to the trouble of registering in more than one office in the area is impressive evidence the people regarded the area as a single labor market whether the service agency did or not. Similarly, "individual applicant" data showed the 5,578 placements properly reported by these four offices during the pre-project year actually represented only 2,655 individuals. Here again, traditional transaction measurement was found to be grotesquely misleading with a discrepancy of over 30 per cent between what had actually happened and what transaction data implied had happened.

Area Management

The development of staff and resource depth permitted by area operation and encouraged by unit organization fundamentally changed the type of management required in the rural Employment Service. Centralization of areawide management responsibility had created a role for full-time management in the rural Employment Service. The part-time management concept which had traditionally characterized rural Employment Service operations was supplanted by a new conception of the roles of first and second line rural Employment Service management. In the Ottumwa Project, the first line management role of the area manager was more creative than administrative. The staff and resource depth achieved through area organization permitted area responsibility for the day-to-day administration of individual programs and activities to be delegated to competent specialists who served as working supervisors. As a consequence, the area manager was able to concentrate upon bringing area resources into better focus on the more critical manpower needs. Freed from the welter of administrative detail--from the housekeeping duties which so often consume management resources without materially benefiting operational performance--the area manager's prime responsibility became the creation of the most effective and comprehensive area manpower service program as available resources allowed.

Under these circumstances, the role of second line management was one of critical importance. As working supervisors, responsible for the effectiveness of activities within their units as well as for participation in actual performance of these activities, second line management personnel were both the means through which management decisions were converted into action and, through their active participation in actual production activities, management's eyes and ears as well. Competent performance of their roles required that second line management personnel remain constantly alert to developing problems and continuously search for more effective and more efficient ways of utilizing available resources. As a consequence, second line personnel became a prime source of innovative ideas which contributed to the strengthening and expansion of manpower services during the Project.

The involvement of second line management personnel in the development as well as the implementation of programs and policies led to even further staff participation in the management function. Unit coordinators, unable to develop the technical competence and expertise necessary for effective program innovation in each of the areas of specialization within their units, delegated responsibility for activities within their area of technical competence and commensurate authority to individual program specialists. As a result, the management function pervaded the entire organization and a type of participative management evolved. The active participation of the entire staff in the management process not only brought their expertise and experience to bear on the technical problems associated with expanding and strengthening manpower services, it also secured their personal commitment to the programs and activities they had helped to develop. There is no better incentive to exceptional performance--to complete realization of potential--than personal commitment.

The Impact of Area Organization on Services

The innovative procedures permitted and encouraged by area operation and unit organization had significant and substantial impact on both the quality and the extent of the manpower services delivered in the area by the Employment Service. The centralization of intensive service programs and activities allowed Field Services Unit personnel to specialize in outreach and intake activities. The outstation center program which the staff depth and flexibility achieved through area organization substantially strengthened the ability of the Employment Service to reach out to individual applicants in need of service.

During the Project's second year, the total number of individual applicants served by the Employment Service was 25 per cent greater than the number served during the pre-project year. While the number of applicants residing in the counties in which regular Employment Service facilities were located increased by 11 per cent, the number of individuals reached by the Employment Service in the eight outlying "forgotten" counties increased by over 82 per cent--from 1, 214 before the Project to 2, 212 during the Project's second year. The ability of the Employment Service to reach out to residents of both the outlying counties and the counties in which Employment Service facilities were located had been strengthened substantially and, reaching the potential client, is the necessary first step in any successful service delivery system.

Of equal significance, before the Project only 3.5 per cent of the non-agricultural job openings processed by the four Employment Service offices were from outside the four counties in which these offices were located. On the other hand, information derived from the 1960 Census indicates 46 per cent of the area's nonagricultural employment opportunities lie in these eight counties. Decentralization of local placement and local employer relations activities through the outstation center program resulted in a 400 per cent increase in the number of job openings received from employers in these eight outlying counties. The significance of this substantial increase in the number of job openings listed with the Employment Service lies in the increased placement potential. To be effective, a manpower program, whether urban or rural, must be able to place its clients in competitive employment. Successful exploitation of the placement potential offered by outlying areas such as these eight "forgotten" counties is a necessary first step in this direction.

Though the local economy deteriorated steadily during the Project period (Ottumwa itself lost five sizeable industries, one of which had had peak employment of over 1,000) the number of individual applicants permanently placed by the Employment Service increased steadily. During the year before the Project, a total of 2,655 applicants or 40 per cent of the total applicant traffic served by the four offices were placed in permanent jobs. During the first Project year 2,670 applicants or 43 per cent of the total applicant population were placed in permanent employment.

During the second Project year when the innovative techniques introduced during the Project were fully operational, 4,146 individual applicants were permanently placed. In other words, the number of applicants placed in permanent jobs by the Employment Service was 56 per cent greater during the second Project year than during the year before the Project, while the percentage of the total applicant population permanently placed increased from 40 to 50 per cent. Interestingly enough "transaction data" shows no appreciable difference in activity between the two periods and gives no indication of the substantial extension of services the permanent placement of 56 per cent more applicants implies.

Finally, the number of applicants placed in permanent employment through job development also increased steadily throughout the Project period. Through job development 153 per cent more applicants were placed in permanent employment during the second Project year than in the year before the Project.

The centralization of intensive service activities and of the implied supportive services permitted by area organization made it possible for staff specialization and program depth to develop. The development of staff specialization and program depth, in turn, created the means through which effective, cooperative interagency relationships at the working level could be worked out. To illustrate, development of formal agreements for the cooperative outstation centers culminated in the evolution of county-level multi-agency service centers. Similarly, the practice of holding periodic "staffing sessions" with members of the Employability Unit, the Field Services Unit and the Area Placement Unit, which were initially begun as a means for improving internal communication and for developing service programs for particular individuals, eventually evolved into informal interagency program development conferences. Participation by representatives of other manpower-oriented agencies became regular. As a result of Employment Service initiative, an informal, multi-agency service center capable of developing and carrying out employability development plans for both individuals and special applicant groups evolved.

Of equal importance, centralization of intensive service activities permitted expansion of service without augmentation of staff. Though the counseling staff was not at full complement at any time during the Project's operation, centralization of the service, along with the resulting staff specialization and cooperative interagency working level relationships, made it possible for counseling service to be extended to a 50 per cent larger number of individual applicants. Regular counseling service was extended to the

Operation Mainstream Program operating in the area. Delivery of program counseling service on this scale had never been undertaken in this area before and resulted in the direct extension of service to over 50 disadvantaged applicants. In addition, centralization of the counseling function permitted scheduled service to be extended to the Neighborhood Youth Corps projects operating in the area and for supportive Employment Service counseling to be provided to M.D.T.A. students at the Area Vocational Technical School.

Centralization of M.D.T.A. selection and referral activities yielded substantially increased selection of target group members for M.D.T.A. training. Especially significant here was the priority which could be assigned to Operation Mainstream, Work Experience and Training Programs and Neighborhood Youth Corps graduates already being served by the centralized counseling service. Competition for available M.D.T.A. training slots was fierce. During the second Project year, over 1,500 area residents were identified as being available for and potentially eligible to receive M.D.T.A. training. Yet sufficient training slots were available for only one-tenth of this number. As a consequence, the ability to assign priority to the training needs of prime target groups achieved through the centralization of M.D.T.A. selection activities became vitally important.

The intensive effort made possible by centralizing interarea and intra-area job development and placement activities in the Area Placement Unit resulted in over a 1,000 per cent increase in the number of individuals placed in permanent employment outside their home communities. Of the factors contributing to this substantial rise in interarea placement activity, the successful effort to promote positive recruitment by out-of-the-area employers, coupled with imaginative recruitment techniques such as the television "Jobs-A-Go-Go" series, probably had the greatest impact. Hundreds of additional out-of-the-area job opportunities were opened to area residents as a direct consequence.

The staff specialization achieved through area organization made it possible for industrial services to be extended to employers in the eight outlying and previously unserved counties. Staff specialization also made possible the development of a pilot cooperative high school program based upon an exhaustive survey of 1967 Iowa high school graduates which reflected the expressed needs of the young people themselves and of school administrators and counselors. This Cooperative High School Program, developed by the centralized counseling and public information sections during the second Project year, subsequently was adopted as the model for the 1969 Cooperative High School Program in Iowa.

Staff specialization and awareness on the part of appropriate personnel of an incipient manpower need resulted in the development of two particularly effective Summer Youth Employment Programs. These Summer Youth Employment Programs again were tailored to the needs of the young people and to the resources of the communities in which they were undertaken. Incidentally, the success of these two programs had led to community interest in starting similar programs in the future, using local financial resources.

The centralization of labor market information collection and dissemination activity allowed development of employment-unemployment benchmarks in five additional counties in the area as well as the development of more accurate and more realistic labor supply and demand information for the use of industrial development groups. Finally, an Area Job Opportunity Bulletin was developed to meet the need of such public agencies as the public schools, the Vocational Schools, the Department of Social Welfare and the Division of Vocational Rehabilitation. This bulletin gave current information on the types of jobs actually available in the area, the minimum qualifications set by employers in different occupational areas and prevailing wage rates.

Centralization of public information activities enabled the Employment Service to make optimal use of available mass communication media. The development of the potential offered by radio and television was particularly significant. Utilization of radio and television for client recruitment, job recruitment and for communicating manpower problems and needs to the community was pursued extensively and effectively.

As an illustration, the four "Jobs-A-Go-Go" television job recruitment programs resulted in the placement of nearly 400 individuals, or about 100 workers a program, in out-of-the-area employment. The significance of this performance becomes even more vast when it is realized that nearly 50 per cent of these individuals had had no recent contact with the Employment Service, nearly 60 per cent were from the rural, outlying counties and almost 35 per cent could be classified as disadvantaged.

Perhaps the most eloquent testimony to the effectiveness of area organization and of the innovative techniques and procedures area organization encouraged is the adoption of the concept by the Iowa Agency. The 1969 Iowa Plan of Service provides for area organization in Ottumwa in the post-project period as well as the development of area organizations in three other locations. The Ottumwa experience demonstrated that in-depth service in rural areas can be delivered by the Employment Service.

Mr. WEBER. I should note the Ottumwa project did not involve use of job bank and in the extension of this to the 10 regions we are incorporating the job bank, which should further enhance the flow of information.

Senator MONDALE. That would appear to be more intrastate directed. It is a region within the State, is it not?

Mr. WEBER. That is correct. It works off something called functional economic area.

Senator MONDALE. It seems to me the migrants' problem is more interstate. It might be intrastate in a large State like Texas, but it would be a tradeoff between beets in Minnesota, some canning in southeast Minnesota, specialized crops in Wisconsin, cherries in Michigan. That would seem to be the general market.

Mr. WEBER. It is clear there is a major logistics problem, delivering effective manpower service to migrants. You have to do it essentially at sending and receiving points—when they stand still and when they are not engaged in employment. So, the notion of providing intensive service while they are in an interstate status is just fraught with despair.

To the extent we have a project in a rural area of Texas which is a traditional source of migrant labor, you will be able to reach these people before they are pulled into this stream or into that stream where it is so difficult to offer them all sorts of service, educational service, health service and what have you.

Senator MONDALE. It is from the time that migrants are in the stream that we have heard a lot of complaints. It seems like the farmer has an incentive to get the farmworker a little early in order to insure a supply of labor. And there is no one that is telling the migrant that he may have three or four options.

In either the Midwest, or on the west coast, is the migrant ever told that there are jobs available 100 miles away that would prevent several weeks of unemployment, or higher wages. They are not supplied that kind of information, or are they?

Mr. WEBER. It is available through local farm office and we do try to work it into this annual plan.

Senator MONDALE. But in the local farm office there would be a tendency, would there not, for the placement officer to try to deal with labor supply problems of his area?

Mr. WEBER. He wants to serve his clientele.

Senator MONDALE. That would be the good old farmers, and I find that understandable. The farm labor official is not about to go and tell farmers in his area, "I just sent all your available labor supply to Michigan because they can make 4 cents more an hour." If he wants to stay alive in his job he is not going to do that, is he?

Mr. WEBER. I agree there is that incentive and disposition for officers to see local folks, but that is why we have regional offices and that is why the regional offices require a report which is known as in-season farm labor report, which includes estimates of the supply-and-demand situation in particular local markets in some instances on a weekly basis so that the regional people can be sensitive to imbalances

in supply and demand and issue appropriate directives to smooth out the flow.

I don't want to give the impression that this is a smoothly functioning system which always gets the right picker, the right vineyard at the right time; it is not.

The process is inherently unstable. It is not as if the migrant is likely to automatically move on the basis of the information we offer. They have their own preferences which reflect their own skill and backgrounds and judgment concerning whether they want to pick cherries or blueberries.

I am just indicating to you that we do have the capability and we try to make it work with the very real constraints that are presented by this market situation.

Senator MONDALE. According to Mr. Paarlberg, and his analysis of Department of Agriculture statistics, this matching requires more sophistication. In terms of mechanization, the system is working less well, because in fact the number of hours the migrant is working is dropping at a much faster rate than the number of jobs is declining, which would mean there is a growing mismatch.

It seems to me if we are concerned about this mismatch, we would try to really gear up in this area in a combined way of discouraging migrancy because that is what the economics would dictate.

Secondly, we would be trying to realize that it is a major, national, sophisticated, logistical problem to get these farmworkers where they should go?

Mr. WEBER. Absolutely.

Senator MONDALE. Maybe we should take a couple of those C-5's and fly them around. [Laughter.]

Mr. WEBER. The Department of Labor has good relations with the Department of Defense.

Senator MONDALE. Proceed.

Mr. WEBER. Let me now turn to the last problem and that is the specific problem of commuters in Mexican border areas. I am aware that this subcommittee has taken a keen interest in the problem of commuters in the Mexican border areas. The term "commuter" is sometimes used to refer to "wetbacks" or border visitors who work illegally in the United States.

I will restrict my discussion to "green carders"—the approximately 50,000 aliens who have been legally admitted for permanent residence in the United States but who have chosen to maintain their domicile in Mexico while commuting to work in the United States on a regular basis.

Green card commuters also cross over from Canada to work in the United States. In 1966, it was estimated that there were about 11,000 Canadian commuters. Because of their small numbers, labor standards similar to those in the United States, and stronger labor organization, Canadian commuters have less impact on the border communities than their Mexican counterparts.

The following adverse effects of the Mexican commuter system have been identified by our Department:

1. Wages are lower along the border because of the impact of the impact of the commuter;
2. Unemployment is higher in areas where commuters are present;
3. The incidence of violations of the wage and hour law is greater in the border areas, and
4. Collective bargaining in the border areas is hampered by the availability of commuter-workers.

The difficulties in changing the present commuter system stem from the fact that the system has been recognized and accepted administratively by the United States for over 40 years.

It is now considered a right by Mexican nonresident aliens and many other border residents. The economies and the social and political makeup of the U.S. border cities have been shaped by the availability of a large pool of low-skill and relatively low-wage Mexican labor.

The Department of Labor is greatly concerned about the impact of commuter employment on the wages and working conditions of American workers. But this is an extremely complex problem that the Department of Labor alone cannot resolve since control essentially falls outside our administrative jurisdiction. The Labor Department can, and does, of course, promote more effective enforcement of its own programs.

A number of alternative solutions to this problem have been offered. However, certain basic factors should be taken into account in any solution which is eventually developed. The precipitous termination of the commuter system would result in the imposition of an undue hardship both upon the commuters and upon the U.S. border cities in which they are employed.

Also, the 50,000 commuters obtained their immigrant status on the good faith assurance that the United States would not change an administrative practice of 40 years standing.

The studies that have been made conclude that if forced to choose between taking up permanent residence in the United States or surrendering their I-151 cards, an overwhelming proportion—as high as 80 or 90 percent—would move to our side of the border.

They would become residents of communities which for the most part are already in some economic distress and are ill-equipped to handle unanticipated massive demands for services. If the commuters and their families are to be relocated without seriously disrupting these border communities, provision must be made to insure the availability of basic service such as housing, education, medical care, and family assistance.

Consideration should also be given to a concerted industrial development program to bolster the economy of the border areas and expand employment opportunities for all of the residents of the Southwest.

We recognize that the migrant agricultural worker is in an economically vulnerable position in the United States. As I have suggested, this condition can be ameliorated by stabilizing the migrants' employment, improving their wages and living conditions, and by bringing them under the protection of our system of social legislation.

Ultimately, we must cope with the problems involved in helping these individuals and their families move out of the migrant stream. This task—whether it involves the Mexican commuter or the domestic agricultural worker—will be a substantial one that demands our best efforts. Much remains to be done. In the Department of Labor, we have made a start in meeting our responsibilities in this important area of manpower policy.

That concludes my statement.

Senator MONDALE. Thank you, Mr. Secretary, for your most useful analysis.

As you observed, this committee has been increasingly concerned about the border commuter problem. I think that situation is creating possibly the biggest source of new poverty in America today.

I believe it is growing. I believe there are very few restraints at the border. I think its implications are national, and not local. I think, as you have observed, it results in reduced work opportunities, minimum living and working standards and conditions, and breeds a general violation of American social and economic legislation. It creates a depressed economic situation in southern Texas and California that reminds one of a 1930's depression scenario.

This is a main source, a breeding point, so to speak, of migrant farmworkers. Even in Florida, because many of them move over there from south Texas in desperation. Meanwhile, we have these beginning manpower programs that you have testified about that are trying to solve the problem by encouraging the people to leave these border areas. Yet for each person who leaves, many new persons are prepared to enter, and do enter, from Mexico.

Last year we maybe relocated 30 or 40 families out of the stream in one effort, and perhaps others in other efforts. Thousands of workers in the meantime are coming across from Mexico. A virtually inexhaustable supply of unskilled, tragically impoverished, Mexican rural farmworkers that are coming into our already depressed border economies and labor markets just desperate for work.

I do not see any reasonable effort underway by anyone today to meet this problem.

First of all, I don't even think we know how many are coming across. Do you know, for example, how many green card holders there are in Mexico?

Mr WEBER. 50,000.

Mr. KNEBEL. The Immigration and Naturalization Service is making a cumulative census of so-called commuters. Their definition of "commuter" is someone who crosses twice or more weekly.

Senator MONDALE. Now, how many total green card holders are there?

Mr. KNEBEL. There are approximately 3 million people in the United States who have I-151 cards.

Senator MONDALE. How many of those are immigrants?

Mr. WEBER. They would all be immigrants.

Senator MONDALE. Resident immigrants awaiting citizenship?

Mr. WEBER. Yes, sir. With respect to the group you are talking about along the border, it is estimated that about 50,000 cross on a regular basis.

Senator MONDALE. That is a daily commuter count?

Mr. KNEBEL. There is an additional estimate of approximately 5,000 who cross to do seasonal farmwork.

Senator MONDALE. Only 5,000?

Mr. KNEBEL. That is the count that has been made.

Senator MONDALE. What do you think of that count?

Mr. KNEBEL. I think they probably have not counted everyone.

Senator MONDALE. How close do you think it is?

Mr. KNEBEL. There is no way of making an accurate count.

Senator MONDALE. Who is supposed to count them?

Mr. WEBER. As they identify a person as maintaining a residence in Mexico and crossing, they mark his card so they have a cumulative count.

Senator MONDALE. Who does that?

Mr. WEBER. INS.

Senator MONDALE. How many nonresident aliens holding green cards are there in Mexico, do we know?

Mr. WEBER. I don't know.

Senator MONDALE. Do we know how many green cards were issued last year?

Mr. KNEBEL. Very few. For Mexicans not too many. We could supply the figures for the record.

Senator MONDALE. I wonder if we have these figures. As you know green card status has a lot of significance, because if you give one green card to the head of the family, everyone in that family becomes eligible to enter the United States without a labor certification. Some of those Mexican American families make maximum use of the privilege, and some become relatives almost overnight. It is a very loose practice.

Mr. WEBER. We can get specific data on the number of immigration visas that were offered to Mexican nationals in the preceding year and this would be subject to the recent immigration law of the Western Hemisphere quota.

Mr. MITTLEMAN. Would these all be sixth preferences?

Mr. WEBER. There is no preference for Western Hemisphere. There is a preference system for the Eastern.

Mr. MITTLEMAN. Don't you have to give a labor certification?

Mr. WEBER. Yes, sir; but there is not the same system of preference that you have for the Eastern Hemisphere.

Mr. MITTLEMAN. Is the Labor Department certifying a shortage of help in agriculture?

Mr. WEBER. No, sir; it is my understanding that those are under so-called B and C lists. That is labor surplus areas. And only in a very rare case would we certify that. As you know we have these three lists.

Mr. MITTLEMAN. So, actually, if what you say is correct, no one has actually, no Mexican has actually gotten a visa on the premise he is going to come to this country and do agricultural work?

Mr. WEBER. I cannot say no but undoubtedly that figure is very low, because these would be subject to the so-called availability test. We already have evidence of adverse effect. So, there might be a few rare cases involving particularly rare skills, but this is information we will be glad to provide for the record.

Senator MONDALE. Would you do that?

(The information subsequently supplied follows:)

In 1969 and the first quarter of 1970, certifications were made for 297 persons with rare agricultural skills, for example, horse trainers, landscape gardeners, chicken sexers, and so forth.

Mr. WEBER. Most of our people are from Latin America. The largest occupational group, as you know, is made up of live-in maids and I am pleased to report that the number of certifications that we have made in that area has dropped precipitously. At one point, it was 50 percent of our total labor certifications made in the Western Hemisphere were for live-in maids.

Senator MONDALE. I don't think we are one bit as effective in solving the farm problem as we are with maids. The Department of Labor is very actively involved in criticism of the Canadian problem, but I don't see the same effort down there. At least that is my impression of the problem.

Let me turn to one other matter.

I went down to a border crossing point one day at 4:30 in the morning, and just stood there. I nearly was arrested because they did not want anybody around with a camera, and I had one. They actually started checking credentials, which they were not doing when I first arrived. We had Mexicans backed up to Mexico City for about an hour. They came across by the thousands.

Now, 40 percent of them at least were producing birth or baptismal certificates showing they are U.S. citizens. Now, would they be reflected in our commuter figures? Do you count U.S. citizens?

Mr. WEBER. No.

Senator MONDALE. That is very interesting because I think most of those baptismal certificates were phony. Twenty-five-year olds appeared with brand new certificates. Very impressive. No one even looked at them. I think there are thousands of people coming across with certificates which obviously are not Government-sponsored certificates, and which could be easily issued by a mock priest, or a priest who is trying to help. I am not complaining about the priests' role; for the underlying problem is far more serious.

I have complained to INS about this. If what I saw at that one border that one morning is correct, there must be hundreds and thousands of people crossing that border.

Some of them are commuters coming over daily, and some of them coming over on a permanent basis, some with phony baptismal certificates, but not many of them even reflected in any of our statistics because they are treated as U.S. citizens.

Is anything being done about that, do you know?

Mr. WEBER. I cannot respond to that, constructively. As you indicate that is within the responsibility of INS and Justice and it is the

border patrol which carries out the surveillance. Mr. Knebel tells me that the estimate of U.S. citizens living in Mexico, who commute on a regular basis, is approximately 20,000.

Senator MONDALE. But the Labor Department has no responsibility and does not review that?

Mr. WEBER. No, sir.

Senator MONDALE. What about children coming across the border who might be working in violation of child labor laws. Does the Department of Labor have any responsibility for that?

Mr. KNEBEL. I am not sure I understand the question, Senator.

Senator MONDALE. I saw many kids coming across the border, many of whom I think were 13 and 14 years of age.

Mr. KNEBEL. If they were employed in violation of the Fair Labor Standards Act, the child labor provision of Fair Labor Standards Act, certainly the Labor Department has responsibility for enforcing the law in the establishment where they would be employed.

Senator MONDALE. I saw a State employment service man enlisting workers at a shapeup point right at the Mexican border. I assumed he was paid for by the Department of Labor. Does he have any responsibility, when he is down there, to check into possible child labor violations?

Mr. WEBER. I am sure, regardless of formal responsibility, he has a normal administrative and moral responsibility to not refer to employment, somebody who is under age. And if he is doing it he is certainly guilty of complicity.

Senator MONDALE. It is my impression that we will never end the curse of a stream of migrant workers as long as this hemorrhage exists along the Mexican border. I don't think there are any meaningful restrictions there today. I think it is the cruelest institution and phenomena in America today.

In all fairness to all of the Federal agencies, I don't think any of them give a damn. It is getting worse, not getting better, and the damage caused by that one phenomena exceeds by 1,000 percent anything that we are doing to try to correct the problem from the other end.

This is a long-standing phenomena, not to be visited solely upon the present administration. We are all to blame; but I wish we could come up with a strong program to deal with this problem. Until we do, I think the daily tragedies visited upon those people is just beyond human description.

Mr. WEBER. There are two aspects of the problem. I cannot say that I agree that the situation has improved so much. It has not improved so much. Secretary Wirtz went with Public Law 78. We used to have 400,000 braceros coming into this country. That stopped as a formal matter. There is the whole additional question that Senator Murphy raised of how many illegals are coming in and how you deal with this problem.

Undoubtedly it is a problem. Essentially, it is a question of enforcement—enforcement by the INS and border patrol. With respect to our capacity to enforce wage and hour laws. I am sure if you had Mr.

Moran, Wage and Hour Administrator, before you, he would tell a plaintive tale about deficiencies in personnel.

I concede that with respect to the commuter problem, there are certain conflicting equities and a policy has not been established or formulated. Senator Muskie has introduced a bill and so has Senator Kennedy, and I have cosponsored both bills and introduced one myself. I understand that these bills are pending, but substantial formal steps have been taken in other problem areas which required only the administrative will to carry them out. We think we have done this with respect to live-in maids to some extent.

Senator MONDALE. The Department of Justice helped to develop a policy for marihuana, but no one is even helping the poorest of all. I am not being critical of any specific individuals. I think there has been a lack of attention in all administrations, and by all agencies, including the legislative branch.

Here we have had these troubled discussions about the plight of the migrant, and at the same time that we search for ameliorative programs, we are refueling institutions, and perpetuating a situation that by any standard is just getting worse.

We stopped the braceros program, and now we let persons in with baptismal certificates. I bet the makers of baptismal certificates are in the millions. Why be illegal when all you need is one of these pieces of paper. There is nothing to it. I complained of this to the INS a year ago, and the only thing INS has done since is block me at the border when I went across for a meal one night. They looked at every bag I had. They knew who I was.

But the tragedy is that no one cares about what is happening to the human beings. They know about it, and they just don't care.

Today we found out that the victims, the migrant farmworkers, are not even being counted.

Once again, I just don't sense any urgency.

One final question, do you have any advisory boards that work with State employment security agencies? Are there any migrants on any of those advisory boards?

Mr. WEBER. The one particularly in issue is the one in California and the regulations provide for labor representation. I understand that the present arrangement with respect to that advisory board is unsatisfactory in terms of our regulations. This was one of the issues raised in the petition presented to the Secretary last month and will be the basis for discussions between the Federal agency, California and the other parties to the suit.

Senator MONDALE. Wouldn't it be a good idea if the Department of Labor would establish an advisory council with actual migrants on it to suggest ideas for the development and implementation of policies and programs affecting their lives? Would not that be a good idea?

Mr. WEBER. I think that as a matter of procedure the Department should be responsive to the petition and interests of groups affected by particular programs. With respect to the form that would take—a particular migrant worker or representative of a particular labor or social welfare organization—I don't think I can make a specific judgement at this time.

Senator MONDALE. Wouldn't it be fair to say of all the problems that we face in the farm labor market, perhaps the most severe, or as severe as any other, is the plight of the migrant, with all the special language problems, cultural problems, instability problems, interstate problems, the fact that most social and economic legislation does not extend to them, the lack of any kind of political machinery, and the sorts of things you testified to in your statement—wouldn't it be well to have some input from those who have to live that life and are living it?

Wouldn't we all be better off? We have heard testimony about the migrants plight. You have heard it, too. There are all kinds of examples in the law suit filed in California about migrants being told in farm labor offices that they are going to make big money in, say Illinois, or Minnesota.

They come back broke. Educational television last year filmed a documentary. They actually followed a crew from Arkansas to Long Island, New York. We heard, and we saw, the pitch of the crew leader that employees were going to make a lot of dough and be able to send it back for Christmas.

They all ended up broke; and the working conditions, the housing, everything, was terrible. I don't think it is possible for any of us to understand that. I think the migrants themselves can tell us more about that than the experts. I think the test of our system rests upon how it works out in their lives.

Finally, of course, there is just simple decency. Just the fact that most depressed people in American life are not even consulted must be corrected. They cannot send in a petition. They are not eligible to vote. Most of them cannot even speak the English language. There are high levels of illiteracy. They have no money, no steady employment despite their search for work that takes them around the country. They are just totally impotent—economically and politically powerless.

Wouldn't it be well to just go an extra mile with them, and let them be heard on a consistent basis?

Mr. WEBER. I guess I have three general answers to make. One, nobody can quarrel with your broad overview. I think probably that reflects the substance of the situation as it exists. I think it is important to note—and that is what my statement tried to point out—that in many ways it is not a matter of willfulness by somebody setting out consciously to exploit them, but, rather, they operate in a market situation which has great potential for these sorts of excesses and abuses.

So, they do not have the same economic status, the same economic mechanisms and earning ability that the broad range of workers enjoy.

This is compounded by the fact, as you correctly indicate, that they often lack political leverage and institutions.

The administration in two very significant ways has tried to say we are going to enable you to tap into the system. The UI benefits were—

Senator MONDALE. I applaud you for your position. You used it effectively.

Mr. WEBER. Through the UI amendments, we are saying to the migrants, in effect, "if you can't get into the institution, we will move the institution over to you and it will create a whole new set of incentives on the part of the employers to regularize employment."

Secondly, the Secretary, testifying before this committee in May, made a recommendation with respect to extension of collective bargaining which deals in part with market problems but also the general problem of broad power.

So, the administration has made some constructive suggestions in this direction. Beyond that, you asked where we should put our dollars. The migrants are disadvantaged. On the other hand, Congress, through the appropriation process and legislative process, has said that our mandate lies with some group that we now call disadvantaged.

There are approximately 11 million disadvantaged in this Nation. A large number of them live in urban ghettos and we are trying to emphasize and direct our program toward that segment of the population. I think it is probably true, not specifically with respect to the migrant worker alone, but with respect to rural problems in general that there has been some pragmatic imbalance which overlooks the fact that there are a lot of poor people in rural areas: some are migrants and some are living in tar paper shacks in one place.

Let me cite a particular set of statistics. We have a concerted service program—an interdepartmental program to aid some of these rural areas in a couple of counties in Minnesota. The averages age in some of the counties is 64. That is an incredible fact. The average age is 64. A study of New York City graduates indicates that 95 percent of those who graduate high school leave those rural areas. Now, there is poverty there and many of the problems that manifest themselves in the city are really rural problems.

These problems are just showing up at the receiving end. Making a system to deal with urban problems work is difficult, but you look at the rural problem and it is really a tough nut to crack. This certainly includes the migrant worker problem.

Where, for example, are you going to put a training center? We have experimental training centers operating in an old Job Corps building, on an Air Force base, and on an Indian reservation.

They are not doing the job. How you provide service is still another problem. So, I would say that migrant workers have special problems. We are trying to be aware of them. I think, overall, we try and put numerical weights on our responsibilities to these problems.

There are 11 million disadvantaged and 275,000 migratory workers. We are doing a fair amount, I think, and we do have a commitment. I think we are listening to them. We listened to Mr. Chavez and his representatives at some length at hearings in California with respect to a determination involving use of green cards.

If we do not listen, apparently there are the courts and they are being used by such groups as the California Rural Legal Assistance organization. Obviously, from a bureaucratic point of view, we are going to be irritated by this but from an operating point of view, we are going to benefit. We told that to the California agency and indi-

cated that we should not look at this as a bargaining situation, but in terms of the details which those groups presented to which we should be sensitive.

So, there are a lot of ways of getting input and I assume these hearings will be a constructive step in that direction.

Senator MONDALE. We have tried to expand these service programs, including rural legal service programs. There is no such program in southern Texas and we need an expansion of those programs. I think they underscore the powerlessness of these people, and this is a way to get visibility. But would it really hurt to have a small amount of money set aside to bring a few of those migrants in, and go over these programs with them, and let them talk directly to the Department?

Mr. WEBER. Steps like that are feasible

Senator MONDALE. I don't think it would cost a lot. This town is loaded with advisory committees, they seem to meet all the time. If we let a little money slip into the hands of some migrants to do some advising, it would not hurt anything, would it?

Mr. WEBER. We do, for example, fund an organization called SER—Service, Employment, and Redevelopment. It is a Mexican-American group representing 12 or 13 organizations, approximately. They presumably reflect the interest of their constituents. In a sense, I guess, I might take a little issue with you. If you look back upon the history of the migratory labor problem, there has been a study almost every 3 years beginning with "Grapes of Wrath" as well as a series of Presidential commissions on the problem.

People are aware of the problem. I think it is important to continue to look at it and assess the impact of mechanization on the problem. The important thing is to develop the administrative resources to deal with the problem in a constructive way and to resolve some of these outstanding policy issues that are before us, such as the green card problem. There is a problem of enforcement.

Senator MONDALE. The Department of Agriculture testified that this is the first year in history that they have ever even projected future unemployment and job loss trends. Never have they done this before.

Mr. WEBER. Let it be said that the Department of Labor has funded numerous research studies dealing with projections for labor demands in specific areas and specific crops.

Senator MONDALE. Have you made projections in each of these areas?

Mr. WEBER. Yes, sir; we have. For example, various issues of Farm Labor Developments deal with problems of mechanization.

Senator MONDALE. Do you have a similar projection for labor supply in America?

Mr. WEBER. Not that I am aware of. Of course, the real problem in economic terms is there. It used to be something called Say's law, which says demand generates its own supply. That is probably a statement of facts in farm labor, but that does not deal with the question of declining demand—what happens to the people who would normally turn to this occupation?

Senator MONDALE. Particularly where you have this manpower coming across the border, for entirely different reasons.

I appreciate your contribution here today and I am grateful to you.

I order printed at this point in the record the interrogatories that the subcommittee submitted to the Department of Agriculture and the Department of Labor, and their respective responses thereto, in addition to a list of all publications submitted and several excerpts from those publications.

(The material referred to follows:)

QUESTIONS POSED BY THE SENATE SUBCOMMITTEE ON MIGRATORY LABOR
TO THE DEPARTMENT OF AGRICULTURE AND THE DEPARTMENT OF LABOR
CONCERNING MIGRATORY FARMWORKER MANPOWER AND ECONOMIC ISSUES

(The following questions and requests are presented simultaneously to both the Department of Labor and the Department of Agriculture. Answers to these questions will be considered in conjunction with Subcommittee hearings on Migrant Manpower--A Study in Economic Powerlessness. The purposes, scope, and intentions of these hearings are outlined in the attached Staff Paper.)

To avoid duplication of response when data alone are requested, the Subcommittee recognizes that one Department may defer to the other. However, if and when one Department so defers to another Department, the Subcommittee requests that reasons for such deference be specifically stated. Additionally, for all questions or requests involving anything other than the submission of data and statistics, the Subcommittee requests the responses of both Departments. Similarly, when requested data is not available, the Subcommittee requests that each Department comment on the reasons for the unavailability of such data.

I. DEMOGRAPHIC DATA

1. Do we know how many migratory farmworkers, and working and non-working dependents and relatives, there are in this country?
 - a. What is the current standard for determining whether a worker is to be considered a migrant farmworker?
 - b. Are all data relating to migratory farmworkers, and working and non-working dependents and relatives, based on these definitions? If so, what are the reasons for choosing these particular definitions? If not, what other definitions are used? What are the reasons for using each such definition?
2. For each of the last 10 years, and in 1930, 1940, 1950, and 1955, and for future years where projections have been made, please answer the following: (For each figure given, please specify the definition of migrancy used, the source of the data, and indicate measures of statistical reliability. If no data are available, please explain why.)
 - a. How many migratory farmworkers have there been (will there be) in this country? Please indicate foreign nationals separately.
 - b. How many have done (will do) only migratory farmwork?
 - c. How many, and to what degree, have (will) migrant workers been (be) employed outside of agriculture? What other kind of jobs have been (will be) performed by these workers?
3. What are the current sources of demographic data for the migratory farm working force? Specifically, can we classify and cross-classify this group by age, sex, marital status, educational level, school drop-out rate, English language proficiency, skill level, family size, children's school status, other household members (by number, occupation, time devoted), parents' occupation, and place of residence (by size, geographic location, industrial concentration, frequency of permanent change per year, and unemployment-underemployment-subemployment level)? (This list is not to be considered inclusive. If other personal characteristics and data can be identified, please state them.)
 - a. Please supply us with as much such detailed demographic data as you have for the most current period as well as for each of the last 10 years, and in 1930, 1940, 1950, and 1955. Please explain fully the definitions and changes in definitions during the time periods on which the data are based. Please explain also the sources for such data and comment fully on their statistical reliability and inherent shortcomings, if any.

- b. If data on any or all of the above-mentioned demographic data and personal characteristics are not available, please explain why.
- c. Please supply us with any analyses of changes in the demographic composition of the migratory farm labor force over the last 10 years, and projections for future change (including all assumptions on which the projections are based) which you possess.
- d. If no analyses of change and/or projections have been made, please explain why.

II. The Subcommittee's investigation of migrant farmworker manpower and economic problems by definition encompasses an analysis of present and projected earnings and employment data. The following 12 aspects of earnings and employment are under consideration (the list is not to be considered as inclusive, and any additions are welcomed).

- (1). Level of earnings of all jobs for individuals and families, by type of earnings (hourly, piece rate, salary), and by type of employment (agricultural, agriculture-related, non-agricultural, as well as for various types of employment within agriculture);
- (2). Geographic location of earnings specified in (1);
- (3). Value and amount of withholdings associated with earnings specified in (1);
- (4). Value and nature of perquisites associated with earnings specified in (1);
- (5). Additional income, and sources for such income, associated with earnings specified in (1);
- (6). Comparable data ((1) through (5) above) for nonmigratory workers similarly employed;
- (7). The number of jobs in agriculture per year by number, type, duration, location, specific crop, and dates;
- (8). The number of jobs outside of agriculture performed by migratory workers per year by number, type, duration, location, and dates;
- (9). Jobs outside of agriculture which might be performed by migratory farmworkers and members of their household by location, type, wage level, part-time/full-time status, regular or seasonal basis, and dates available;
- (10). Hours of work per day per job (agricultural and non-agricultural jobs) performed by migratory farmworkers, including annual average and range of hours per job (average hours per day, range of hours per day over the life of each job);

- (11). Annual unemployment and not-in-the-labor force status of migratory farmworkers as individuals and as family units by frequency, duration, location, dates, amount and wage level of part-time work available, and sources of additional income; and,
- (12). Degree of employment (frequency, duration, location, dates) of migratory farmworkers as individuals and families in part-time work when full-time work is desired, in full-time work yielding earnings below the poverty level, and in full-time work below worker capacity.

4. Please supply the following information:

- a. Do there exist data series which reflect on the above 12 aspects of migratory farmworker earnings and employment? If so, specifically name each series. Please explain data acquisition and compilation techniques, and indicate the name of the person responsible for acquisition, compilation, and analysis of each series, and indicate the length of time-series data now available.
- b. Please supply us with annual data (from "a") for the last 10 years and for 1930, 1940, 1950, and 1955.
- c. Have cross-sectional studies been conducted which reflect on the above 12 aspects of migrant farmworker earnings and employment? If so, specifically name each series. Please explain data acquisition and compilation techniques, and indicate the name of the person responsible for acquisition, compilation, and analysis of each series, and indicate the length of time-series data now available.
- d. Please supply us with annual data (from "c") for the last 10 years, and in 1930, 1940, 1950, and 1955.
- e. If no data are available on any one or more of the particular aspects of migratory farmworkers' earnings and employment, please indicate if such data are available for other groups within this Nation's labor force, and why no such data exists for migratory farmworkers.
- f. Please supply any projections for the future regarding any available data on any one or more of the 12 aspects.

III. SOME POSSIBLE CAUSES OF FARMWORKER ECONOMIC AND MANPOWER PROBLEMS

- 5. The Subcommittee held hearings on May 21 and 22, 1969, on the Border Commuter Labor Problem. The record documents that persons regularly cross from Mexico into the U.S., either as holders of so-called green

cards, visitors permits, or birth and baptismal certificates. Others cross illegally. In the opinion of your Department, does this border situation contribute to the redundancy of the farm labor supply, and/or depress living and working conditions along border areas, and/or increase the need for United States residents along the border to migrate north in search of better paying jobs, and/or cause a depressing impact on the entire National farm labor, rural, and/or urban economy? If so, please explain why in detail, and please submit all reports, analyses, and documentation in support of your position. If not, please submit documented evidence of why the border situation is not a source of the economic and manpower problems outlined above.

With Regard to Farm Labor Market Information:

6. Please explain fully the process by which data on the demand for migratory farmworkers is collected, compiled, analyzed, and disseminated to the migratory farm labor force.
7. Please explain the process by which information is disseminated to farmers and others outside the channels of governmental agencies.
8. How are employers contacted, and by what government agencies, and with what (number) staff, and with what 1969 budget, to solicit requests for migratory farm and farm-related labor?
9. With regard to the geographic, cultural, and economic relationships between those collecting labor market information, farmers and growers, and farmworkers:
 - a. Please submit either a map, or appropriate document showing the number of Federal, State and local government employees, by State and County geographic location, that are responsible for collecting, compiling, analyzing, and disseminating farm labor market information.
 - b. What is the total number of employees in your department whose work is directly related to collecting, compiling, analyzing, and disseminating farm labor market information? How many of these are Mexican-American? Women? Negro? Bi-lingual in Spanish and English? How many of the total are presently, or formerly, migrant farmworkers? How many of the total are presently, or formerly, farmers or growers?
10. What specific job information is sought and collected? Please explain in detail.

11. What steps, if any, are taken to verify the accuracy of this information? Please explain in detail.
 - a. Do present rules and regulations provide for information and complaint procedures if inaccurate market information is conveyed? If there is no verification of accuracy, please explain why not.
 - b. How, if at all, is the accuracy of information disseminated cross-checked with the initial requests for labor?
12. How is information about job demand transmitted to the labor supply, by what agencies, with what (number) staff, and with what 1969 budget? What is the time relationship between requests and final information dissemination? As time may be of the essence in disseminating demand information, what steps are implemented to obtain the fastest possible dissemination?
13. What is the role of private individuals within the government-sponsored information dissemination program (i.e., what parts of the program are carried out by non-government employees)? Please explain these relationships.
14. At what governmental level (local, state, regional, national) is the dissemination of labor market information controlled? In the face of local, state, and regional competition for migratory farm labor, explain fully the criteria and decision-making practices followed in the allocation of labor between competing areas. Also, please submit all government rules and regulations concerning this matter.
15. What is the annual cost of the government's regulation of, and participation in, information dissemination? What is the cost to the states?
16. What is the extent of information dissemination occurring outside the province of government regulation? Please submit estimates of such activity, and the basis for such estimates. Are there any criteria established (financial or otherwise) to regulate information dissemination by private individuals? Can regulation of information dissemination be justified in a free enterprise economy? Please comment.
17. Has the impact of a possible government withdrawal from the regulation and participation of market information on the migratory farm labor force been estimated? If so, please supply all data relevant to this estimation. If not, why has there never been an analysis of the government's role in this area?

With Regard to Barriers to Job Mobility:

18. Please supply the Subcommittee with all existing data reflecting the degree, extent, nature, and characteristics of intra- and inter-market mobility of migratory farmworkers.
19. For each of the following facets of mobility within the farm labor market and between the farm and nonfarm labor markets, please indicate all the available data (including collection techniques and statistical reliability), and please supply such data. If no such data is available, please explain why.
 - a. Occupational mobility of migratory farmworkers - annual extent by various demographic characteristics of workers (including, but not limited to, age, sex, marital status, educational level, skill level, family size, children's school status, other household workers, parents' occupation, place of residence). Please also supply comparable data for non-migratory farm labor and non-farm workers.
 - b. Intergenerational occupational mobility - extent by demographic characteristics with comparable labor market data for other workers (see "a" above).
 - c. Job mobility - extent by demographic characteristics with comparable labor market data for other workers (see "a" above), and change in extent and nature of job mobility over preceeding 10 years.
 - d. Geographic mobility - extent by demographic characteristics with comparable labor market data for other workers, for changes in permanent residence and temporary changes in residence, all cross-sectionally as well as over time (see "a" above). Include data on inter- and intra- state mobility.
 - e. Future mobility projections - extent by demographic characteristics with comparable labor market data for other workers (see "a" above).
20. Have studies been conducted to determine those factors which influence occupational, job, and geographic mobility patterns, and rate, of migratory farmworkers? If so, please supply these studies and the data on which results are based. If no studies are available, please explain why not.
21. Have studies been conducted to determine the socio-economic status of migratory farmworkers relative to other labor market groups, changes in socio-economic status over time, and factors influencing socio-economic status of migratory farmworkers? If so, please supply studies and data on which results are based. If no studies are available, please explain why not.

22. Have studies been conducted to determine the specific roles of education, language, culture, racial discrimination, and labor market information in influencing mobility (of all types) of migratory farm workers. If so, please supply studies and data on which results are based. If not, please explain why no such studies have been made.
23. Since there exist migrant relocation and retraining programs, do comprehensive evaluations of these programs exist? If so, please supply these evaluations. If no such evaluations have been made, please explain why not.
24. Have evaluations of different State and Federal, agency and department, programs and program components been combined and analyzed as a whole? If so, please supply all such overall evaluations. If no such overall evaluations have been undertaken, please explain why not.

With Regard to Worker and Employer Attitudes:

25. Have data been gathered and studies made which would indicate the nature of the work attitudes of migratory farmworkers relative to other workers in the economy? Do longitudinal data exist showing changes in these attitudes? Have the causes of these attitudes been explored? Please supply us with all such studies and data if they exist. If no such studies have been made, please explain why not.
26. Have investigations been made of employer hiring and employment policies for migratory farmworkers as compared with nonmigrant workers specifically with respect to discrimination on the basis of race, language, age, place of residence, sex, and migrancy status? If so, please supply us with all relevant studies. If no such studies have been made, please explain why not.

With Regard to the Nature of Demand:

27. What efforts have been made to describe the exact nature of the demand for migratory farmworkers (for example, in terms of requisite skills and abilities, job components, etc.)?
 - a. Please supply data which reflects as accurately as possible the current nature of the demand for migratory farmworkers and the behavior of that demand over the preceeding 10 years, and in 1930, 1940, 1950, and 1955, as well as demand projected into the future.
 - b. Please include data to describe the source of the demand (i.e., including but limited to employers by size, crops involved, geographic location, degree of nonagricultural interests, etc.).
 - c. If such information is not available, specifically explain why this is so.

28. What has been the behavior of labor productivity (especially related to the introduction of technological advances) in agriculture (and specifically in those agricultural sectors using migratory farmworkers) over the past 10 years, and in 1930, 1940, 1950, and 1955? What will be future behavior? What has been, and what will be, the behavior of migratory farmworker earnings over these time periods? Please supply all data relevant to these determinations. If no such data are available, please explain why not.
29. What has been the relationship between the productivity of migratory farmworkers and their level of earnings in agriculture compared with productivity and earnings of nonmigratory agricultural and non-agricultural workers over the preceeding 10 years, and in 1930, 1940, 1950, and 1955? What will be the relationships in the future? Please supply all data bearing on these questions. If no data are available, please explain why not.
30. Please indicate the amount of money (direct and indirect - sources and recipients) expended annually to improve agricultural technology - currently and over the preceeding 10 years. What are projected expenditures for future years?
31. Please indicate amount of money spent (direct and indirect - sources and recipients) to reduce output of agriculture, and/or support agricultural prices - currently and annually over the preceeding 10 years. What will be the extent and nature of future expenditures?
32. Please indicate sum spent (direct and indirect - sources and recipients) currently, annually over the preceeding 10 years, and projected future expenditures, to reduce labor supply in agriculture, and especially in migrant agriculture, necessitated by efforts to relatively decrease the demand for agricultural labor. Please supply all data on which figures are based.
33. Please indicate measures of relative effectiveness of monies spent to change the nature of the demand for agricultural (and migratory agricultural) labor compared with monies spent to change labor supply. Please supply all data on which these measures are based. If no data are available, please explain why not.

U. S. DEPARTMENT OF LABOR

OFFICE OF THE SECRETARY

WASHINGTON

APR 14 1970

Honorable Walter F. Mondale
United States Senate
Washington, D. C. 20510

Dear Senator Mondale:

We are enclosing replies to the questions accompanying your letter of March 3, 1970, regarding the demographic characteristics of migratory workers, manpower and economic problems, sources of data on migratory labor employment and earnings, factors related to mobility, and other related matters.

You will note that we have coordinated with the Department of Agriculture. In some cases our replies supplement those of USDA, and in other cases we have omitted responses since the questions were more appropriately answered by the USDA.

We hope this information will be useful to the Senate Subcommittee on Migratory Labor. We will, of course, be happy to provide copies of studies or other materials as needed.

Sincerely,



Secretary of Labor

Enclosure

DEPARTMENT OF AGRICULTURE
OFFICE OF THE SECRETARY
WASHINGTON D C 20250

Honorable Walter F. Mondale
Chairman, Subcommittee on Migratory
Labor
United States Senate
Washington, D.C. 20510

Dear Senator Mondale:

The enclosed material is in response to your request of March 3, 1970
on problems of migrant farm workers.

We have answered your specific questions as completely as we can.
I apologize for the mass of detail, but it appears to be necessary
to be responsive to the questions.

I plan to appear before your Committee on April 14 to discuss these
issues.

Sincerely,

Flon Pearceby

Enclosures

U.S. DEPARTMENT OF LABOR

REPLIES TO QUESTIONS POSED BY THE SENATE SUBCOMMITTEE ON MIGRATORY LABOR TO
THE DEPARTMENT OF AGRICULTURE AND THE DEPARTMENT OF LABOR CONCERNING
MIGRATORY FARMWORKER MANPOWER AND ECONOMIC ISSUES

I. DEMOGRAPHIC DATA

1. DO WE KNOW HOW MANY MIGRATORY FARMWORKERS, AND WORKING AND NON-WORKING DEPENDENTS AND RELATIVES, THERE ARE IN THIS COUNTRY?

- a. WHAT IS THE CURRENT STANDARD FOR DETERMINING WHETHER A WORKER IS TO BE CONSIDERED A MIGRANT FARMWORKER?

(To be answered by USDA.)

- b. ARE ALL DATA RELATING TO MIGRATORY FARMWORKERS, AND WORKING AND NON-WORKING DEPENDENTS AND RELATIVES, BASED ON THESE DEFINITIONS? IF SO, WHAT ARE THE REASONS FOR CHOOSING THESE PARTICULAR DEFINITIONS? IF NOT, WHAT OTHER DEFINITIONS ARE USED? WHAT ARE THE REASONS FOR USING EACH SUCH DEFINITION?

The definition used in USDL reports is substantially the same as that used by USDA, namely, a domestic farmworker temporarily resident and employed in an area other than his normal area of residence.

2. FOR EACH OF THE LAST 10 YEARS, AND IN 1930, 1940, 1950 AND 1955, AND FOR FUTURE YEARS WHERE PROJECTIONS HAVE BEEN MADE, PLEASE ANSWER THE FOLLOWING: (FOR EACH FIGURE GIVEN, PLEASE SPECIFY THE DEFINITION OF MIGRANCY USED, THE SOURCE OF THE DATA, AND INDICATE MEASURES OF STATISTICAL RELIABILITY. IF NO DATA ARE AVAILABLE, PLEASE EXPLAIN WHY.)

- a. HOW MANY MIGRATORY FARMWORKERS HAVE THERE BEEN (WILL THERE BE) IN THIS COUNTRY? PLEASE INDICATE FOREIGN NATIONALS SEPARATELY.

The USDA is providing data from Current Population Survey statistics on the number of different individuals who work as migratory farm workers in the course of a year. The USDL maintains statistics on inter-State, intra-State, and foreign migratory workers by place of employment as part of its seasonal farm labor statistics.

The following two tables are included:

1. Table 1. Annual Peak Employment of Migrants and Foreign Workers in U. S. Agriculture, 1958-1968
2. Table 2. Foreign Workers Admitted for Temporary Employment in U. S. Agriculture, by Year and Nationality, 1942-1969

Source of these data are State Employment Service agencies. Reports are received during the active farm season from 261 delineated areas throughout the country. However, these reports do not represent nationwide coverage in that they are only received if 500 or more seasonal workers or any foreign workers (legally admitted) are employed in the area. There are several delineated agricultural reporting areas in most States, but in smaller States, such as Delaware and Rhode Island, one area covers the entire State. Generally, two approaches are used in collecting these data. In some States, scientific sampling methods are used, while others largely rely on the informed judgment of experienced farm labor service personnel based on such sources as operating records of interstate clearance, number of workers housed at migratory labor camps, size of crop, factors of labor use per unit of production, etc. Foreign-worker employment is received from Manpower Administration regional offices weekly, and is an exact count. No data are available on projected employment of migratory workers.

- b. HOW MANY HAVE DONE (WILL DO) ONLY MIGRATORY FARMWORK?

(To be answered by USDA.)

- c. HOW MANY, AND TO WHAT DEGREE, HAVE (WILL) MIGRANT WORKERS BEEN (BE) EMPLOYED OUTSIDE OF AGRICULTURE? WHAT OTHER KIND OF JOBS HAVE BEEN (WILL BE) PERFORMED BY THESE WORKERS?

(To be answered by USDA.)

Annual Peak Employment of Migrants and
Foreign Workers in U.S. Agriculture
1958-1969

Year	Foreign Workers		Interstate Migrants		Intrastate Migrants	
	Number	Month	Number	Month	Number	Month
1958	294,835	Sept.	163,900	July	144,800	Oct.
1959	308,168	Sept.	172,600	July	139,300	Oct.
1960	246,675	Sept.	167,400	July	128,600	Oct.
1961	220,934	Oct.	194,900	June	108,000	Oct.
1962	127,032	Sept.	191,700	July	100,900	Oct.
1963	105,454	Sept.	163,200	June	80,100	July
1964	92,784	Sept.	186,300	July	85,300	July
1965	23,698	Sept.	183,200	Aug.	91,400	July
1966	12,169	Sept.	177,100	Aug.	83,100	Aug.
1967	12,531	Oct.	176,800	July	62,000	July
1968	8,890	Dec.	169,700	Aug.	65,900	Aug.
1969	8,665	Jan.	152,800	Aug.	64,500	Aug.

SOURCE: U. S. Department of Labor, Manpower Administration.

Table 2. Foreign Workers Admitted for Temporary Employment in
U.S. Agriculture, by Year and Nationality 1/ 1942 - 1969

Year	Total	Mexicans	British West Indians 2/ 2/	Canadian	Japanese and Filipino
1942 4/-----	4,203	4,203		INA	
1943-----	65,624	52,098	13,526	INA	
1944-----	83,206	62,170	19,622	1,414	
1945-----	72,900	49,454	19,391	4,055	
1946-----	51,347	32,043	13,771	5,533	
1947-----	30,775	19,632	3,722	7,421	
1948 5/-----	44,916	35,345	3,671	5,900	
1949-----	112,765	107,000	2,765	3,000	
1950-----	76,525	67,500	6,225	2,800	
1951-----	203,640	6/192,000	9,040	2,600	
1952-----	210,210	6/197,100	7,910	5,200	
1953-----	215,321	6/201,380	7,741	6,200	
1954-----	320,737	6/303,033	4,704	7,000	
1955-----	411,266	6/393,650	6,616	6,700	
1956-----	459,850	6/445,197	7,563	6,700	390
1957-----	452,205	6/436,049	8,171	7,300	635
1958-----	447,513	6/432,857	7,441	6,900	315
1959-----	455,420	6/437,643	8,772	8,600	405
1960-----	334,729	6/315,046	9,820	8,200	863
1961-----	310,375	6/291,420	10,315	8,600	40
1962-----	217,010	6/194,978	12,920	8,700	404
1963-----	209,218	6/186,865	12,930	8,500	923
1964-----	200,022	6/177,736	14,361	7,900	25
1965-----	35,871	20,284	10,917	4,670	0
1966-----	23,524	8,647	11,194	3,683	0
1967-----	23,603	6,125	13,573	3,900	0
1968-----	13,323	0	10,723	2,600	0
1969-----	15,830	0	13,530	2,300	0

1/ This does not include Basque shepherders.

2/ Due to carryover of workers from year to year, the number admitted is usually less than peak employment.

3/ Includes Bahmanians.

4/ Data from 1942 through 1947 were obtained from reports prepared by the U.S. Department of Agriculture.

5/ Data from 1948 through 1969 were compiled from administrative reports of the Inspector Administration, U.S. Department of Labor.

6/ Admitted under Public Law 78.

3. WHAT ARE THE CURRENT SOURCES OF DEMOGRAPHIC DATA FOR THE MIGRATORY FARM WORKING FORCE? SPECIFICALLY, CAN WE CLASSIFY AND CROSS-CLASSIFY THIS GROUP BY AGE, SEX, MARITAL STATUS, EDUCATIONAL LEVEL, SCHOOL DROP-OUT RATE, ENGLISH LANGUAGE PROFICIENCY, SKILL LEVEL, FAMILY SIZE, CHILDREN'S SCHOOL STATUS, OTHER HOUSEHOLD MEMBERS (BY NUMBER, OCCUPATION, TIME DEVOTED), PARENTS' OCCUPATION, AND PLACE OF RESIDENCE (BY SIZE, GEOGRAPHIC LOCATION, INDUSTRIAL CONCENTRATION, FREQUENCY OF PERMANENT CHANGE PER YEAR, AND UNEMPLOYMENT-UNDEREMPLOYMENT-SUBEMPLOYMENT LEVEL)? (THIS LIST IS NOT TO BE CONSIDERED INCLUSIVE. IF OTHER PERSONAL CHARACTERISTICS AND DATA CAN BE IDENTIFIED, PLEASE STATE THEM.)
 - a. PLEASE SUPPLY US WITH AS MUCH SUCH DETAILED DEMOGRAPHIC DATA AS YOU HAVE FOR THE MOST CURRENT PERIOD AS WELL AS FOR EACH OF THE LAST 10 YEARS, AND IN 1930, 1940, 1950, and 1955. PLEASE EXPLAIN FULLY THE DEFINITIONS AND CHANGES IN DEFINITIONS DURING THE TIME PERIODS ON WHICH THE DATA ARE BASED. PLEASE EXPLAIN ALSO THE SOURCES FOR SUCH DATA AND COMMENT FULLY ON THEIR STATISTICAL RELIABILITY AND INHERENT SHORTCOMINGS, IF ANY.
 - b. IF DATA ON ANY OR ALL OF THE ABOVE-MENTIONED DEMOGRAPHIC DATA AND PERSONAL CHARACTERISTICS ARE NOT AVAILABLE, PLEASE EXPLAIN WHY.
 - c. PLEASE SUPPLY US WITH ANY ANALYSES OF CHANGES IN THE DEMOGRAPHIC COMPOSITION OF THE MIGRATORY FARM LABOR FORCE OVER THE LAST 10 YEARS, AND PROJECTIONS FOR FUTURE CHANGE (INCLUDING ALL ASSUMPTIONS ON WHICH THE PROJECTIONS ARE BASED) WHICH YOU POSSESS.
 - d. IF NO ANALYSES OF CHANGE AND/OR PROJECTIONS HAVE BEEN MADE, PLEASE EXPLAIN WHY.

(To be answered by USDA.)

II. THE SUBCOMMITTEE'S INVESTIGATION OF MIGRANT FARMWORKER MANPOWER AND ECONOMIC PROBLEMS BY DEFINITION ENCOMPASSES AN ANALYSIS OF PRESENT AND PROJECTED EARNINGS AND EMPLOYMENT DATA. THE FOLLOWING 12 ASPECTS OF EARNINGS AND EMPLOYMENT ARE UNDER CONSIDERATION (THE LIST IS NOT TO BE CONSIDERED AS INCLUSIVE, AND ANY ADDITIONS ARE WELCOMED).

- (1) LEVEL OF EARNINGS OF ALL JOBS FOR INDIVIDUALS AND FAMILIES, BY TYPE OF EARNINGS (HOURLY, PIECE RATE, SALARY), AND BY TYPE OF EMPLOYMENT (AGRICULTURAL, AGRICULTURE-RELATED, NON-AGRICULTURAL, AS WELL AS FOR VARIOUS TYPES OF EMPLOYMENT WITHIN AGRICULTURE);

- (2) GEOGRAPHIC LOCATION OF EARNINGS SPECIFIED IN (1);
- (3) VALUE AND AMOUNT OF WITHHOLDINGS ASSOCIATED WITH EARNINGS SPECIFIED IN (1);
- (4) VALUE AND NATURE OF PERQUISITES ASSOCIATED WITH EARNINGS SPECIFIED IN (1);
- (5) ADDITIONAL INCOME, AND SOURCES FOR SUCH INCOME, ASSOCIATED WITH EARNINGS SPECIFIED IN (1);
- (6) COMPARABLE DATA ((1) THROUGH (5) ABOVE) FOR NONMIGRATORY WORKERS SIMILARLY EMPLOYED;
- (7) THE NUMBER OF JOBS IN AGRICULTURE PER YEAR BY NUMBER, TYPE, DURATION, LOCATION, SPECIFIC CROP, AND DATES;
- (8) THE NUMBER OF JOBS OUTSIDE OF AGRICULTURE PERFORMED BY MIGRATORY WORKERS PER YEAR BY NUMBER, TYPE, DURATION, LOCATION, AND DATES;
- (9) JOBS OUTSIDE OF AGRICULTURE WHICH MIGHT BE PERFORMED BY MIGRATORY FARMWORKERS AND MEMBERS OF THEIR HOUSEHOLD BY LOCATION, TYPE, WAGE LEVEL, PART-TIME/FULL-TIME STATUS, REGULAR OR SEASONAL BASIS, AND DATES AVAILABLE;
- (10) HOURS OF WORK PER DAY PER JOB (AGRICULTURAL AND NON-AGRICULTURAL JOBS) PERFORMED BY MIGRATORY FARMWORKERS, INCLUDING ANNUAL AVERAGE AND RANGE OF HOURS PER JOB (AVERAGE HOURS PER DAY, RANGE OF HOURS PER DAY OVER THE LIFE OF EACH JOB);
- (11) ANNUAL UNEMPLOYMENT AND NOT-IN-THE-LABOR FORCE STATUS OF MIGRATORY FARMWORKERS AS INDIVIDUALS AND AS FAMILY UNITS BY FREQUENCY, DURATION, LOCATION, DATES, AMOUNT AND WAGE LEVEL OF PART-TIME WORK AVAILABLE, AND SOURCES OF ADDITIONAL INCOME; AND,
- (12) DEGREE OF EMPLOYMENT (FREQUENCY, DURATION, LOCATION, DATES) OF MIGRATORY FARMWORKERS AS INDIVIDUALS AND FAMILIES IN PART-TIME WORK WHEN FULL-TIME WORK IS DESIRED, IN FULL-TIME WORK YIELDING EARNINGS BELOW THE POVERTY LEVEL, AND IN FULL-TIME WORK BELOW WORKER CAPACITY.

4. PLEASE SUPPLY THE FOLLOWING INFORMATION:

- a. DO THERE EXIST DATA SERIES WHICH REFLECT ON MIGRATORY FARMWORKER EARNINGS AND EMPLOYMENT? IF SO, SPECIFICALLY NAME EACH SERIES. PLEASE EXPLAIN DATA ACQUISITION AND COMPILATION TECHNIQUES, AND INDICATE THE NAME OF THE PERSON RESPONSIBLE FOR ACQUISITION, COMPILATION, AND ANALYSIS OF EACH SERIES, AND INDICATE THE LENGTH OF TIME-SERIES DATA NOW AVAILABLE.

Data for migrant employment and wages for seasonal crop activities are prepared on the In-Season Farm Labor Report (ES-223) by State employment security agencies for major agricultural reporting areas. (See explanation under 2a.) Reports are sent to the national office of the Farm Labor and Rural Manpower Service where national summaries are made and published in Farm Labor Developments. This series, in its present form, was started in 1958.

- b. PLEASE SUPPLY US WITH ANNUAL DATA (FROM "a") FOR THE LAST 10 YEARS AND FOR 1930, 1940, 1950, AND 1955.

(See answer to 2a.)

- c. HAVE CROSS-SECTIONAL STUDIES BEEN CONDUCTED WHICH REFLECT ON THE ABOVE 12 ASPECTS OF MIGRANT FARMWORKER EARNINGS AND EMPLOYMENT? IF SO, SPECIFICALLY NAME EACH SERIES. PLEASE EXPLAIN DATA ACQUISITION AND COMPILATION TECHNIQUES, AND INDICATE THE NAME OF THE PERSON RESPONSIBLE FOR ACQUISITION, COMPILATION, AND ANALYSIS OF EACH SERIES, AND INDICATE THE LENGTH OF TIME-SERIES DATA NOW AVAILABLE.

- d. PLEASE SUPPLY US WITH ANNUAL DATA (FROM "c") FOR THE LAST 10 YEARS, AND IN 1930, 1940, 1950, AND 1955.

- e. IF NO DATA ARE AVAILABLE ON ANY ONE OR MORE OF THE PARTICULAR ASPECTS OF MIGRATORY FARMWORKERS' EARNINGS AND EMPLOYMENT, PLEASE INDICATE IF SUCH DATA ARE AVAILABLE FOR OTHER GROUPS WITHIN THIS NATION'S LABOR FORCE, AND WHY NO SUCH DATA EXIST FOR MIGRATORY FARMWORKERS.

The BLS publishes monthly data on the employment and unemployment of the labor force, based on a household survey conducted by the Census Bureau. Another report on the experience of the labor force during the course of the preceding year is issued annually. These reports include data on agricultural as well as nonfarm workers, but "migratory" workers are not distinguished as a separate category because of technical and cost problems. BLS also publishes a monthly series on hours and earnings of non-agricultural production workers based on an establishment survey. A similar report for farm labor is issued by the Statistical Reporting Service of USDA.

- f. PLEASE SUPPLY ANY PROJECTIONS FOR THE FUTURE REGARDING ANY AVAILABLE DATA ON ANY ONE OR MORE OF THE 12 ASPECTS.

(Questions 4c, 4d, and 4f to be answered by USDA.)

III. SOME POSSIBLE CAUSES OF FARMWORKER ECONOMIC AND MANPOWER PROBLEMS

5. THE SUBCOMMITTEE HELD HEARINGS ON MAY 21 AND 22, 1969, ON THE BORDER COMMUTER LABOR PROBLEM. THE RECORD DOCUMENTS THAT PERSONS REGULARLY CROSS FROM MEXICO INTO THE U. S., EITHER AS HOLDERS OF SO-CALLED GREEN CARDS, VISITORS PERMITS, OR BIRTH OR BAPTISMAL CERTIFICATES. OTHERS CROSS ILLEGALLY. IN THE OPINION OF YOUR DEPARTMENT, DOES THIS BORDER SITUATION CONTRIBUTE TO THE REDUNDANCY OF THE FARM LABOR SUPPLY, AND/OR DEPRESS LIVING AND WORKING CONDITIONS ALONG BORDER AREAS, AND/OR INCREASE THE NEED FOR UNITED STATES RESIDENTS ALONG THE BORDER TO MIGRATE NORTH IN SEARCH OF BETTER PAYING JOBS, AND/OR CAUSE A DEPRESSING IMPACT ON THE ENTIRE NATIONAL FARM LABOR, RURAL, AND/OR URBAN ECONOMY? IF SO, PLEASE EXPLAIN WHY IN DETAIL, AND PLEASE SUBMIT ALL REPORTS, ANALYSES, AND DOCUMENTATION IN SUPPORT OF YOUR POSITION. IF NOT, PLEASE SUBMIT DOCUMENTED EVIDENCE OF WHY THE BORDER SITUATION IS NOT A SOURCE OF THE ECONOMIC AND MANPOWER PROBLEMS OUTLINED ABOVE.

The Immigration and Naturalization Service had identified as of the end of February, 1970, 50,441 Mexican "green card" commuters and 4,823 "green card" seasonal workers. Both of these groups of workers are legal immigrants to the United States who live in Mexico and work in the United States. The seasonal workers cross the border relatively infrequently, whereas the commuter crosses into the U.S. at least twice a week. The number of commuters is a cumulative, non-duplicated figure which has been developed since an INS survey in November and December of 1967, at which time all alien registration receipt cards (I-151) were picked up by the INS officials at the border crossing points for verification and grommeting and then returned to the commuter. The additions to the number of commuters since the November-December 1967 survey have been made as additional alien registration receipt cards have been issued or noticed by the border guards and grommeted; deletions from the count have been made whenever the commuting status has changed for any reason. The number of Mexican seasonal workers has been kept in the same fashion since August, 1968.

In addition to border crossers who work in the United States because of their immigrant status, large numbers of Mexicans work in the United States with improper documents. These include non-immigrant visitors with border crossing permits which do not

permit them to take jobs in the U.S. and other illegal entrants who have no documents whatsoever.

The total number of illegal entrants working in the United States is difficult to estimate. In FY 1968, 151,705 Mexican Nationals were apprehended for being in the United States illegally. Of these, 25,943 acknowledged that they either had remained for a longer period of time than permitted or had accepted employment. While the number of apprehensions increases every year, so does the number of illegal entrants; a large proportion of the illegals are believed to work in agriculture.

The total number of daily commuters represents only 4 percent or so of the total border counties' labor force but a far larger percentage of the local labor force they enter. This can be seen in Tables 3 and 5. Mexican seasonal workers counted since August 1968, are shown as of December 1969, in Table 4.

Effect on the Farm Labor Supply. Close to 40 percent of all commuters identified in November-December, 1967, listed their occupations as farm workers. Approximately three-fifths of the commuter farm workers at that time entered California, and approximately one-fifth each entered Texas and Arizona.

Studies in 1967 show that alien commuters have had relatively little adverse impact on the employment or wages of seasonal farm workers in Arizona because of a shortage of resident workers in the border agricultural areas. The situation in California in regard to employment is not as clear. In Imperial County, California, the number of farms has decreased and the number of farmworkers has been reduced by 50 percent since 1960. Between 1960 and 1963, the decrease in farm employment was mainly among Mexican workers. After the phaseout of the bracero program, the rate of decrease in farm employment declined. The use of machine thinning and harvesting of the local agricultural crops has reduced labor requirements. To some extent, however, the increase in acreage over the past eight years has offset the displacement of hand labor by machines. Commuting agricultural workers have a significant impact in California on trade union organizing efforts, which are seriously hampered by their presence.

The border area of Texas is the home base for a very large part of the resident migrant agricultural work force, and the presence of the alien commuters adds to an already surplus labor situation and contributes to the low wage rates and the high unemployment rates prevailing in the border areas of Texas.

A factor contributing significantly to the farm labor supply in the Texas border area in particular but also in the California border area is the change which has occurred in both the type of agriculture which is practiced in those areas and technological progress in agriculture. The Department of Agriculture has estimated, for example, that changes in agriculture patterns in the Lower Rio Grande Valley of Texas have resulted in an estimated 40 to 60 percent reduction in farm employment opportunities over the past decade. In the Trans-Pecos area of Texas, which is the extreme western section of Texas south of New Mexico, the decline in employment opportunities is even more dramatic. The changes in production practices have replaced labor so effectively in cultural and harvesting operations for cash grain and cotton that a revival of employment opportunities cannot seriously be expected from this direction in any of the border areas of Texas. Even further expansion of these crops could not be expected to do much more than act as a soft brake on employment decline. Moreover, the change to cattle raising has also meant reduced labor requirements. There is indication that future jobs in agriculture, though diminishing in number, will require workers skilled in the operation and maintenance of intricate machinery and knowledgeable sophisticated farm techniques. By and large, migrant farm workers, whether resident or non-resident, do not now have these skills. The unemployment rates in the border counties give an indication of the surplus labor situation which prevails over large seasons of every year. (See Table 5.)

Living and Working Conditions Along Border Areas. The presence of large numbers of Mexican commuters has the effect of keeping average wages at or below the minimum wage levels in most border communities. This is due both to the labor surplus situation, which has created a condition where workers have little bargaining power to improve their wages, and to the prevalence of low-wage employment opportunities. Retail and wholesale trade, and the garment industry are major employers outside of agriculture, except in San Diego, where commuters generally have a smaller impact than elsewhere.

The border communities have very large concentrations of Mexican-Americans whose deficiencies in the English language limit their ability to take any but low-skill and low-paying jobs, while the children of Mexican and Mexican-American parents have very high school dropout rates for the same reason.

Outmigration. The population of the border cities has been increasing at a rate faster than that of the rest of the country, but because such large numbers of the people have migrated elsewhere in search of better economic and social opportunities, several border counties actually showed a population decline at the time of the 1960 census. (See Table 6.) The 1960 census provides the most recent statistics available on outmigration. These data show that there was net outmigration in all but 7 of the 24 border counties between 1950 and 1960, but because of high natural population increase, only 9 counties actually experienced a total population decline. Unofficial estimates for 1968 or later for 10 of the most populated border counties confirm that outmigration is still a significant factor in all of them. Two Texas border counties, Hidalgo and Cameron, show estimated net population declines since 1960. Population increases in the two largest counties, San Diego and El Paso, are significantly lower than from 1950-1960, indicating high rates of outmigration. Those who move out are generally young, have more education and less family dependency than those who stay behind. As a consequence, the border cities have a very large number of needy persons.

Effect on National Economy. The effect of the outmigration of U. S. nationals from border counties on the economies of the cities of other parts of the Nation is harder to gauge. To the extent that the migrants do not have job skills, have lower educational achievement than the residents of the areas to which they have moved, and have language problems, the migrants may very well add to the unemployment or underemployment problems of the receiving cities.

In addition, the presence of commuting Mexican seasonal workers has the effect of depriving resident workers of farm labor jobs in a farm labor market which has increasingly fewer jobs to offer.

Table 3.

Immigration and Naturalization Service
Count of Green Card Commuters from Mexico and Number Unemployed

Port of Entry by State and County	December 1969		November-December 1967	
	Commuters ^{1/}	Unemployed	Commuters	Unemployed
Total Border Ports of Entry	<u>49,770</u>		<u>40,176</u>	
Texas	<u>23,339</u>		<u>19,714</u>	
Brownsville (Cameron)	2,430	2,770	1,917	2,000
Del Rio (Val Verde)	200	774	317	500
Eagle Pass (Maverick)	2,089	1,215	1,635	1,200
El Paso (El Paso)	13,493	{ 3,325	11,760	{ 4,200
Fabens (El Paso)	321		279	
Fort Hancock (Hudspeth)	54	2/	53	2/
Hidalgo	1,061	3,960	937	4,200
Laredo (Webb)	3,456	3,325	2,669	3,300
Presidio (Presidio)	47	2/	24	2/
Progreso (Starr)	82	3/	50	3/
Roma (Starr)	105	3/	73	3/
New Mexico	<u>31</u>	2/	<u>30</u>	2/
Columbus (Iana)	31		30	
Arizona	<u>5,647</u>		<u>5,148</u>	
Douglas (Cochise)	522	557	380	2/
Lukeville (Pima)	1	3,100	—	4,105 ^{1/}
Naco (Cochise)	113		94	2/
Nogales (Santa Cruz)	1,388	175 ^{4/}	1,118	2/
San Luis (Yuma)	3,616	869 ^{5/}	3,553	2/
Sasabe (Pima)	7	6/	3	6/
California	<u>20,753</u>		<u>15,284</u>	
Andrade (Imperial)	14	{ 3,398	3	{ 4,900
Calexico (Imperial)	8,979		7,690	
San Ysidro (San Diego)	11,697	{ 18,300	7,535	{ 17,300
Tecate (San Diego)	63		56	

^{1/} These figures are a cumulative non-duplicated count since November-December 1967 of Mexican commuters who cross into the United States at least twice a week.

^{2/} Not Available. ^{5/} October 1969.

^{3/} Combined with Hidalgo. ^{6/} Combined with Lukeville.

^{4/} Combined with Douglas. ^{7/} 1967 annual average

SOURCE: Immigration and Naturalization Service, U.S. Department of Justice, and Manpower Administration, U.S. Department of Labor.

Table 4.

Mexican Seasonal Workers
Total as of December 31, 1969^{1/}

<u>Port of Entry by State and County</u>	<u>Total Seasonal Workers</u>
Total Border Ports of Entry	<u>4,628</u>
Texas	<u>1,638</u>
Brownsville (Cameron)	60
Del Rio (Val Verde)	26
Eagle Pass (Maverick)	483
El Paso (El Paso)	233
Hidalgo (Hidalgo)	196
Laredo (Webb)	42
Presidio (Presidio)	54
Progreso (Starr)	1
Roma (Starr)	543
New Mexico	<u>2</u>
Columbus (Luna)	2
Arizona	<u>88</u>
Douglas (Cochise)	5
Nogales (Santa Cruz)	83
California	<u>2,900</u>
Calxico (Imperial)	694
Livermore	157
San Ysidro (San Diego)	2,049

^{1/} An non-duplicated, cumulative count since August, 1968, of Mexican seasonal workers who work on a seasonal basis in U.S. agriculture and reside in Mexico at the end of the season.

SOURCE: Immigration and Naturalization Service, U.S. Department of Justice.

TABLE 5. Border Area Labor Force and Unemployment Rates
1968 Annual Average and 1969 Monthly Rates

State and Labor Market Area (County or Parishes)	Current Labor Force Base	1969 Annual Average	Unemployment											
			1969											
			Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Arizona														
Phoenix	671,000	3.7	3.5	3.5	3.2	2.7	2.4	3.1	3.2	3.0	2.7	2.6	2.0	2.5
Phoenix (Maricopa)	27,200	4.0				3.5						3.2		
Phoenix (Pima)	117,000	4.0	3.9	3.9	3.5	2.9	2.9	3.4	3.5	2.9	2.6	2.5	2.7	2.5
Phoenix (Pinal County)	5,650	5.7	3.7	3.3	3.5	2.7	2.3	5.5	6.0	6.0	6.0	6.8	6.2	3.1
Phoenix (Pinal County)	20,025	3.4	3.0	3.3	3.5	2.9	2.8	3.4	3.5	3.2	2.0	3.0	3.3	2.7
Phoenix (Pinal County)	3,450,000	4.5	5.0	5.5	4.9	4.1	3.9	4.6	4.6	4.5	3.8	3.7	4.4	4.4
Phoenix (Pinal County)	455,000	3.9	4.1	4.1	4.0	3.3	3.3	4.0	3.9	3.9	3.7	3.4	3.9	4.0
Phoenix (Pinal County)	35,400	8.1	9.5	9.4	10.9	10.3	7.3	6.7	7.6	7.1	7.6	7.2	8.2	9.6
Phoenix (Pinal County)	4,650,000	2.7	2.6	2.5	2.4	2.3	2.6	3.6	3.2	2.7	2.6	2.4	2.9	2.5
Phoenix (Pinal County)	1,100	9.5	6.3	6.6	6.5	6.3	6.4	6.9					7.2	7.4
Phoenix (Pinal County)	10,310	5.8	5.6	6.0	5.5	6.2	6.9	7.8	6.3	5.5	6.3	5.8	6.8	5.7
Phoenix (Pinal County)	3,800	8.9	10.1	7.8	7.3	9.1	8.4	11.3					9.3	10.0
Phoenix (Pinal County)	5,900	10.3	14.4	12.2	9.7	11.0	9.0	8.9					11.0	11.3
Phoenix (Pinal County)	9,670	6.3	7.9	7.6	7.4	7.0	7.0	7.0	7.0	7.3	8.7	9.5	7.1	8.0
Phoenix (Pinal County)	7,440	9.1	12.5	11.5	11.1	10.7	10.7	9.7	9.6	9.6	9.8	7.9	12.9	15.3
Phoenix (Pinal County)	123,250	4.0	3.1	3.2	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
Phoenix (Pinal County)	50,525	9.0	10.8	10.3	10.0	7.8	6.3	8.7	7.5	6.5	6.2	7.2	10.0	10.8
Phoenix (Pinal County)	63,800	5.3	5.2	6.3	4.0	4.6	5.4	6.8	6.5	6.3	5.9	5.9	6.8	6.3
Phoenix (Pinal County)	4,700	11.5	16.3				9.9	10.4					11.2	14.0
Phoenix (Pinal County)	6,200	6.4					6.2	6.7					6.9	7.2
Phoenix (Pinal County)	1,900	10.7	14.5	8.5	8.8	10.5	10.5	9.7					13.8	17.7

Source: U.S. Labor Market Area Survey, 1968 Annual Average and 1969 Monthly Rates.

Note: Data for Phoenix (Pinal County) are from the labor force figure.

Table 6.

Total Percentage Change in Population and Net Migration
Border Counties, 1950 - 1960

<u>County, by State</u>	<u>Total Change</u>	<u>Net Migration</u>
Arizona	<u>73.7</u>	<u>44.0</u>
Cochise	74.8	49.0
Pima	88.1	57.0
Santa Cruz	15.7	-10.2
Yuma	65.1	32.0
California	<u>48.5</u>	<u>29.7</u>
Imperial	14.5	-11.8
San Diego	85.5	58.5
New Mexico	<u>39.6</u>	<u>7.7</u>
Dona Ana	51.5	13.8
Hidalgo	- 2.6	-25.6
Luna	12.4	-10.0
Texas	<u>24.2</u>	<u>1.5</u>
Brewster	-12.0	-31.3
Cameron	20.7	-18.6
Dimmit	- 5.2	-27.7
El Paso	61.1	15.7
Hidalgo	12.8	-23.7
Hudspeth	-22.2	-49.3
Jeff Davis	-24.3	-46.5
Kinney	- 8.1	-25.4
Maverick	18.0	-25.4
Presidio	-25.8	-45.3
Starr	22.9	-11.0
Terrell	-18.5	-34.8
Val Verde	47.0	9.8
Webb	15.4	-19.5
Zapata	- 0.3	24.8

SOURCE: County and City Data Book, Bureau of the Census, U. S. Department of Commerce.

WITH REGARD TO FARM LABOR MARKET INFORMATION:

6. PLEASE EXPLAIN FULLY THE PROCESS BY WHICH DATA ON THE DEMAND FOR MIGRATORY FARMWORKERS IS COLLECTED, COMPILED, ANALYZED, AND DISSEMINATED TO THE MIGRATORY FARM LABOR FORCE.

Data related to demand are collected, compiled, and analyzed by local employment office personnel before and during the active farm season. There are 2,537 local offices of the Federal-State employment system covering all States, Guam, Puerto Rico, and the Virgin Islands including seasonal offices. When labor shortages exist the interstate clearance procedure is used to recruit migrant workers. In other words, job orders from demand States such as Michigan and New Jersey are circulated in supply States such as Texas and Florida. The interstate clearance orders specify the number of workers needed, location of work, period of employment and other information. In the supply area, this information is disseminated to the migratory farm labor force by the local employment office, usually by means of Farm Labor Bulletins, as well as by radio, television and newspaper publicity.

An important means of disseminating information on job orders and coordinating the movement of migratory workers to areas of demand is the Annual Worker Plan. For those assisted under the plan, both family groups and crews, comprehensive itineraries are planned weeks ahead of the work season. After job orders are forwarded by demand States, interviews are conducted with crew leaders and migrant family heads. They are provided with specific information about employment opportunities, housing, wage rates, and other job conditions in demand States. From the interviews emerges the Agricultural Worker Schedule which shows the name of the crew or family leader, composition of the crew, transportation and housing requirements. The Schedule also shows the names and addresses of all farm employers whom the crew will be working for during the active season. The plan helps to decrease time lost between jobs for migrant workers while assuring employers a dependable work force. In 1968, over 106,000 interstate migrant workers were assisted under the Annual Worker Plan (Table 7).

Table 7

Number of Groups, Individuals, and Workers Contacted Under
the Annual Worker Plan, by State of Residence, 1969

State of Residence	Groups contacted ^{1/}			Other	Number of individuals ^{1/}	Number of workers ^{2/}
	Total	Crews	Families			
Total-----	10,865	2,523	5,203	2,480	140,161	3/ 165,993
Alabama-----	194	30	35	429	2,574	2,520
Arizona-----	41	8	31	2	482	307
Arkansas-----	70	4	51	15	466	359
California-----	40	2	37	1	552	337
Colorado-----	34	9	34	0	373	361
Florida-----	1,113	872	217	24	33,770	27,193
Georgia-----	21	33	3	55	1,856	1,885
Idaho-----	5	2	3	0	52	64
Illinois-----	11	0	11	0	65	42
Indiana-----	307	193	97	12	19	10
Iowa-----	1	0	1	0	2	2
Kansas-----	3	0	3	0	51	40
Kentucky-----	6	0	4	2	44	34
Louisiana-----	216	45	30	141	1,000	1,794
Michigan-----	56	6	50	0	564	403
Minnesota-----	5	0	5	0	19	17
Mississippi-----	628	32	21	568	5,328	5,297
Missouri-----	250	78	11	201	410	393
Nebraska-----	10	3	7	0	144	165
Nevada-----	3	0	3	0	175	87
New Hampshire-----	1	0	0	1	25	25
New Mexico-----	12	3	9	0	130	100
New York-----	14	14	0	0	305	301
North Carolina-----	46	6	0	40	381	376
Ohio-----	36	3	26	7	163	84
Oklahoma-----	36	3	28	5	338	203
Oregon-----	4	2	2	0	51	36
Pennsylvania-----	4	4	0	0	32	32
South Carolina-----	233	21	8	204	990	966
Tennessee-----	256	15	14	207	1,223	1,200
Texas-----	6,172	1,117	4,498	557	85,393	59,737
Utah-----	2	0	2	0	273	185
Virginia-----	14	11	2	1	932	909
Washington-----	43	4	39	0	515	375
West Virginia-----	8	0	0	8	489	489
Wyoming-----	1	0	1	0	5	5

^{1/} Includes all migrant residents of the reporting State for whom interviews were recorded by the reporting State and other States on Form FD-309, Agricultural Worker Schedule.

^{2/} Includes all workers who were residents of the reporting State. These figures are not comparable with those published for years before 1962 since workers who were not interviewed by the reporting States were formerly excluded from the count.

^{3/} This figure does not represent a complete count of all persons who did migratory farmwork because:

- Only interstate workers are included.
- Not all interstate workers are covered under the Annual Worker Plan.

FOOTNOTES: Information in this table is limited to data accumulated from Form FD-309, Agricultural Worker Schedule, by State employment security agencies in connection with the Annual Worker Plan.

7. PLEASE EXPLAIN THE PROCESS BY WHICH INFORMATION IS DISSEMINATED TO FARMERS AND OTHERS OUTSIDE THE CHANNELS OF GOVERNMENTAL AGENCIES.

As indicated above, State Employment Service agencies use the various media (newspapers, radio, and TV) to disseminate current job information to farmers, workers, and to the general public. However, the main reliance is on distribution of farm labor bulletins prepared by the State Employment Service agencies. Farm Labor Developments, a publication of the Farm Labor and Rural Manpower Service, summarizes information nationally for use in following general trends and outlook with regard to seasonal farm employment. State agencies also have annual reports which review developments in labor demand and supply, program statistics, and outlook for the coming year.

8. HOW ARE EMPLOYERS CONTACTED, AND BY WHAT GOVERNMENT AGENCIES, AND WITH WHAT (NUMBER) STAFF, AND WITH WHAT 1969 BUDGET, TO SOLICIT REQUESTS FOR MIGRATORY FARM AND FARM-RELATED LABOR?

Local office farm labor personnel, employees of State Employment Service agencies, maintain contact with employers in their area who customarily use migrant labor due to local shortages. Since farm labor representatives in local offices have multiple functions, we do not have statistics on staff and budget devoted solely to soliciting requests for migrant labor. In fiscal year 1970 we have budgeted approximately 2,000 positions for all farm labor functions in State agencies, (including some services to the rural nonfarm population), at a cost of \$21,000,000. It is estimated that the equivalent of 300 of these positions are allocated for job development and employer relations functions, but we do not have a breakdown that shows how many of these positions are assigned to areas which use migratory farm labor.

9. WITH REGARD TO THE GEOGRAPHIC, CULTURAL, AND ECONOMIC RELATIONSHIPS BETWEEN THOSE COLLECTING LABOR MARKET INFORMATION, FARMERS AND GROWERS, AND FARMWORKERS:

- a. PLEASE SUBMIT EITHER A MAP, OR APPROPRIATE DOCUMENT SHOWING THE NUMBER OF FEDERAL, STATE AND LOCAL GOVERNMENT EMPLOYEES, BY STATE AND COUNTY GEOGRAPHIC LOCATION, THAT ARE RESPONSIBLE FOR COLLECTING, COMPILING, ANALYZING, AND DISSEMINATING FARM LABOR MARKET INFORMATION.

Farm labor information is usually compiled, collected, analyzed, and disseminated by local office personnel who also perform other duties related either to farm programs or to reporting. In

larger offices, farm labor releases and statistics may be handled by a research and analysis person as one of a number of job market reports and bulletins. We do not have a time distribution system that would enable us to break out staff specifically assigned to this function.

- b. WHAT IS THE TOTAL NUMBER OF EMPLOYEES IN YOUR DEPARTMENT WHOSE WORK IS DIRECTLY RELATED TO COLLECTING, COMPILING, ANALYZING, AND DISSEMINATING FARM LABOR MARKET INFORMATION? HOW MANY OF THESE ARE MEXICAN-AMERICAN? WOMEN? NEGRO? BI-LINGUAL IN SPANISH AND ENGLISH? HOW MANY OF THE TOTAL ARE PRESENTLY, OR FORMERLY, MIGRANT FARMWORKERS? HOW MANY OF THE TOTAL ARE PRESENTLY, OR FORMERLY, FARMERS OR GROWERS?

The Farm Labor and Rural Manpower Service (national office) has a total of 19 staff members engaged in summarization and analysis of farm labor market information and related activities. Of these, 7 are Negro (including 3 women), and one is a Mexican-American. We do not have comparable information for field offices or for State agencies. Pilot efforts on an experimental and demonstration basis are being made in 10 State Employment Service agencies to train and employ bi-lingual Mexican-Americans (many of them former migrants) as rural outreach interviewers to work with and assist migrant workers.

10. WHAT SPECIFIC JOB INFORMATION IS SOUGHT AND COLLECTED? PLEASE EXPLAIN IN DETAIL.

Job information sought from employers on job orders include the number of workers required, job specifications, wages, crop conditions, duration, timing, housing and perquisites, and transportation advances. The form being introduced for inter-area clearance is shown on the next page.

U.S. DEPARTMENT OF LABOR
BUREAU OF EMPLOYMENT SECURITY
WASHINGTON, D.C. 20340 (ADP 10-61)

CLEARANCE ORDER FOR AGRICULTURAL LABOR

A. ORIGINATING LOCAL OFFICE (OO)		1. ISSUE DATE	2. REGION CODE	3. STATE CODE	4. AREA NO.	5. I. O. NO.	6. EMPLOYER NO.	7. ORDER NO.	8. EXPIRATION DATE (month, day, year)
B. REFERENCE NO. (OPTIONAL)		NAMES (last, first, middle initial)		ADDRESSES AND ZIP CODES			TELEPHONE NO. (home and office)		COLLECT CALLS YES NO
10. EMPLOYER									
11. PERSON TO CONTACT									
12. FARM PLACEMENT REPRESENTATIVE									
13. PLACE OF EMPLOYMENT				13. DIRECTIONS TO PLACE OF EMPLOYMENT					
14. TOTAL NO. WORKERS		15. TYPE WORKERS ACCEPTABLE ☐ a. CREW ☐ b. FAMILY ☐ c. INDIVIDUAL OR UN-ORGANIZED GROUP		16. EXPIRATION (month, day, year) FROM TO		17. DATE TO REPORT (month, day, year)			
C. JOB REQUIREMENTS		18. PHYSICAL DEMANDS a. KNEEL ☐ b. STOOP ☐ c. STRETCH ☐ d. STRADDLE ☐ e. LIFT ☐ f. CLIMB ☐ g. OTHER (Specify)		19. EQUIPMENT - OWN AND/OR USED a. TRIPOD LADDER ☐ b. STRAIGHT LADDER ☐ c. PRUNING SHEARS ☐ d. TROWELS ☐ e. PICKING HARNESSES ☐ f. CARRIER (suit or equipment) ☐ g. HOE ☐ h. ☐		TRACTOR TYPE ☐ i. ROW CROP ☐ j. 4-WHEEL ☐ k. CATERPILLAR ☐ l. HI-WAY TRUCK TYPE ☐ m. SEMI ☐ n. DUMP ☐ o. STAKE ☐ p. PICK-UP HARVESTER ☐ q. PULLED ☐ r. SELF-PROPELLED ☐ s. PERSONNEL CARRIER t. REMARKS			
D. JOB SPECIFICATIONS		20. OCC TITLE		21. DOT CODE	22. CROP ACTIVITY	23. NO. THIES OR ACRES	24. JOB ACTIVITY	25. HOURS DAY WEEK	
26. DESCRIBE WORK PERFORMED									
E. WAGES AND RATE INFORMATION		27. JOB ACTIVITY		28. PAY RATE	29. PER UNIT	30. EST. PIECE RATE EARNING PER HOUR	31. BONUS (If Applicable)	32. ESTIMATED TOTAL EARNINGS	33. GUARANTEE RATE
34. SPECIAL PAY TO CREW LEADER									
35. FERGUSONS		a. BOUNTY AND REWARD		b. EMPLOYERS COMPENSATION		c. HOUSING		d. OTHER (Specify)	
36. DEDUCTIONS		a. SOCIAL SECURITY		b. HOSPITAL INSURANCE	c. VOLUNTARY CONTRIBUTIONAL INS.	d. OCCUPATIONAL INS.	e. GRATUITY FOR TATION	f. LIFE INSURANCE ADVANCE	g. HOUSING
								h. OTHER (Specify)	

F.	ADMINISTRATIVE RESPONSIBILITIES		42. CAN DO	43. CAN REPORT TO (e.g., WORK, ETC.)	44. LEADERS RESPONSIBILITY ☐ a. SUPERVISE ☐ b. TRANSPORTS ☐ c. PAYS ☐ d. ASSUMES SOCIAL SECURITY DEDUCTIONS							
G.			45. TRANSPORTATION TO PLACE OF EMPLOYMENT (CAN DO) WILL		46. MEETS REQUIREMENTS OF SECRETARY'S REGULATION							
	a. ADVANCE	b. REIMBURSE	c. FURNISH	d. NOT FURNISH	a. REIMBURSE	b. FURNISH						
47. STATE HOW ADVANCE WILL BE PAID TO EMPLOYER (e.g., BY EMPLOYER)												
48. ONLY REGULATIONS AFFECTING USE OF WORKERS' CHECKS OR NOTES												
H.	49. TYPE OF FACILITY					50. MEETS REQUIREMENTS OF SECRETARY'S REGULATION						
						☐ a. YES ☐ b. WAIVER ISSUED APPROVED R.O. (Date)						
I.	51. HOUSING UNITS					52. FURNISHINGS AND APPLIANCES						
	NO UNITS	TYPE	NO. ROOMS	CAPACITY	CHARGES, IF ANY RENT OTHER	ITEM	EMPL. TURN. YES NO					
53. COMMENTS (Directions to housing, insurance responsibilities, etc.)												
J.	54. GROUP LEADER DATA											
	NO. YEARS	NAME OF LEADER	SOCIAL SECURITY NO.	PERMANENT OR HOME ADDRESS		PHONE NO.						
K.	55. ACTION SUMMARY AND DISTRIBUTION (Date and type of action taken)						56. CLOSING SUMMARY (Date and reason)					
L.	57. REFERRAL AND PLACEMENT RECORD											
	NO	CALL IN	DATE RECEIVED (dd, day, yr)	Applicant Name	OCC. CODE	AGE	SEX	VET	PHYS. HDCH.	ACC.	R. - CUST	IF PLACEMENT DID NOT RESULT, GIVE REASON

11. WHAT STEPS, IF ANY, ARE TAKEN TO VERIFY THE ACCURACY OF THIS INFORMATION? PLEASE EXPLAIN IN DETAIL.

Job orders and other job information are verified by local and State offices. Job orders involving interstate recruitment are verified by Manpower Administration Regional Offices, with additional review of some orders at the national level for compliance with standards and regulations.

- a. DO PRESENT RULES AND REGULATIONS PROVIDE FOR INFORMATION AND COMPLIANCE PROCEDURES IF INACCURATE MARKET INFORMATION IS CONVEYED? IF THERE IS NO VERIFICATION OF ACCURACY, PLEASE EXPLAIN WHY NOT.

Yes, a worker or crewleader may contact a local employment office for additional information, to confirm information, or to file a complaint. Procedures are provided for investigation and handling of complaints related to discriminatory orders, labor disputes, failure to comply with prevailing wages, or substandard housing. In the event of a complaint of substandard housing, for example, the local office may gather facts and determine whether an on-site inspection is necessary, and discuss the problem with the employer and seek cooperation in correcting the alleged inadequacy. If the employer does not cooperate and if the charges are substantiated, the local office can stop referring workers to that employer and assist workers with grievances to find employment elsewhere. The Farm Labor Service has had an intensive program of housing compliance in the last several years which has been very time consuming. Complaints of abuses under the Farm Labor Contractor Registration Act are also investigated.

- b. HOW, IF AT ALL, IS THE ACCURACY OF INFORMATION DISSEMINATED CROSS-CHECKED WITH THE INITIAL REQUESTS FOR LABOR?

If there is doubt about the accuracy of information, a cross-check can be made with the originating local office. In urgent situations, this check can be made by telephone or teletype.

12. HOW IS INFORMATION ABOUT JOB DEMAND TRANSMITTED TO THE LABOR SUPPLY, BY WHAT AGENCIES, WITH WHAT (NUMBER) STAFF, AND WITH WHAT 1969 BUDGET? WHAT IS THE TIME RELATIONSHIP BETWEEN REQUESTS AND FINAL INFORMATION DISSEMINATION? AS TIME MAY BE OF THE ESSENCE IN DISSEMINATING DEMAND INFORMATION, WHAT STEPS ARE IMPLEMENTED TO OBTAIN THE FASTEST POSSIBLE DISSEMINATION?

As indicated in the reply to question 6, information about job demand is transmitted to the farm workers and crew leaders by farm labor personnel in local employment offices. Information is disseminated by personal visits, telephone, local radio and television, newspapers and periodic bulletins or newsletters. The Annual Worker Plan, used for scheduling of crews, is revised during a crews itinerary when necessary to reflect changes in crop activity dates. The time relationship between requests and final dissemination of information may vary from a few hours to a few days, depending on the urgency.

Within the nationwide employment system, speedy communication is conducted by telephone or teletype. Some of the larger States have their own special teletype systems for rapid intrastate dissemination of information.

13. WHAT IS THE ROLE OF PRIVATE INDIVIDUALS WITHIN THE GOVERNMENT-SPONSORED INFORMATION DISSEMINATION PROGRAM (I.E., WHAT PARTS OF THE PROGRAM ARE CARRIED OUT BY NON-GOVERNMENT EMPLOYEES)? PLEASE EXPLAIN THESE RELATIONSHIPS.

Volunteer farm placement representatives are sometimes used to assist local employment offices during the active farm season. The VFPR is a person in the local office operating area who, without remuneration, performs limited informational activities and limited placement services so as to better serve employers and workers in an area remote from the local office. Also, some volunteer church groups disseminate labor information.

14. AT WHAT GOVERNMENTAL LEVEL (LOCAL, STATE, REGIONAL, NATIONAL) IS THE DISSEMINATION OF LABOR MARKET INFORMATION CONTROLLED? IN THE FACE OF LOCAL, STATE, AND REGIONAL COMPETITION FOR MIGRATORY FARM LABOR, EXPLAIN FULLY THE CRITERIA AND DECISION-MAKING PRACTICES FOLLOWED IN THE ALLOCATION OF LABOR BETWEEN COMPETING AREAS. ALSO, PLEASE SUBMIT ALL GOVERNMENT RULES AND REGULATIONS CONCERNING THIS MATTER.

Dissemination of information is primarily controlled at the State level. Preseason planning meetings among State farm labor personnel and communications help to coordinate the movement of migratory crews and individual workers. The Annual Worker Plan is another means of coordinating movement of crews.

The Secretary of Labor has established certain rules and regulations governing the interstate recruitment of farmworkers. (See copy on the next page.) If the job order complies with all regulations and a shortage of local workers exist, the State employment agency will recruit statewide or place the order into interstate clearance.

REGULATIONS OF THE SECRETARY OF LABOR REGARDING
INTERSTATE RECRUITMENT OF FARM LABOR

No order for recruitment of domestic agricultural workers shall be placed into interstate clearance unless there are assurances from the State Employment Service agency that:

1. The State agency has established that domestic agricultural workers are not available locally or within the State.
2. The State agency has compiled and examined data on the estimated crop acreage, yield, and other production factors to assure the validity of need and the minimum number of agricultural workers required.
3. The State agency has ascertained that wages offered are not less than the wages prevailing in the area of employment among similarly employed domestic agricultural workers recruited within the State and not less than those prevailing in the area of employment among similarly employed domestic agricultural workers recruited outside the State.
4. The State agency has ascertained that housing and facilities (1) are available; (2) are hygienic and adequate to the climatic conditions of the area of employment; (3) are reasonably calculated to accommodate available domestic agricultural workers; and (4) conform to the requirements of the applicable State, county or local housing and sanitary codes or, in the absence of such applicable codes, have been determined by the State agency to be such as will not endanger the lives, health or safety of the workers. In making such determinations the State agency shall give full consideration to the applicable recommendations of the President's Committee on Migratory Labor with respect to housing and related facilities.
5. The State agency has ascertained that the employer has offered to provide or pay for transportation for domestic agricultural workers (1) at terms not less favorable to the workers than those prevailing among the domestic agricultural workers in the area of employment recruited from the area of supply; or (2) in the absence of such prevailing practice in the area of employment, at terms not less favorable to the workers than those which prevail among the domestic agricultural workers recruited by out-of-State employers who recruit domestic agricultural workers from the area of supply, as determined by the State agency in the State requested to supply the workers.
6. The State agency has ascertained that other terms and conditions of employment offered are not less favorable than those prevailing in the area of employment for domestic agricultural workers for similar work.

15. WHAT IS THE ANNUAL COST OF THE GOVERNMENT'S REGULATION OF, AND PARTICIPATION IN, INFORMATION DISSEMINATION? WHAT IS THE COST TO THE STATES?

See reply to questions 8 and 9a. We do not have cost accounting for these functions as a separate item.

6. WHAT IS THE EXTENT OF INFORMATION DISSEMINATION OCCURRING OUTSIDE THE PROVINCE OF GOVERNMENT REGULATION? PLEASE SUBMIT ESTIMATES OF SUCH ACTIVITY, AND THE BASIS FOR SUCH ESTIMATES. ARE THERE ANY CRITERIA ESTABLISHED (FINANCIAL OR OTHERWISE) TO REGULATE INFORMATION DISSEMINATION BY PRIVATE INDIVIDUALS? CAN REGULATION OF INFORMATION DISSEMINATION BE JUSTIFIED IN A FREE ENTERPRISE ECONOMY? PLEASE COMMENT.

There is a significant amount of dissemination of information occurring outside the province of government regulation. While there is no basis for measuring the volume accurately, it is known that growers associations, crew leaders, and other private recruiters are engaged in disseminating information.

There are no Federal criteria for regulating dissemination of information by private individuals, other than the Farm Labor Contractor Registration Act. Under that Act, the crew leader's registration may be withheld if he knowingly gives false or misleading information concerning the terms, conditions, or existence of farm employment.

Regulation of information dissemination could be justified in a free enterprise economy only to the extent that regulation was designed to prohibit fraud, deception, or misrepresentation. Obviously, information which would result in improving job opportunities, or otherwise improving the welfare of migrants, should not be controlled or restricted. The best policy is to assure that adequate and reliable public job information is available so that workers will not rely solely on private sources.

17. HAS THE IMPACT OF A POSSIBLE GOVERNMENT WITHDRAWAL FROM THE REGULATION AND PARTICIPATION OF MARKET INFORMATION ON THE MIGRATORY FARM LABOR FORCE BEEN ESTIMATED? IF SO, PLEASE SUPPLY ALL DATA RELEVANT TO THIS ESTIMATION. IF NOT, WHY HAS THERE NEVER BEEN AN ANALYSIS OF THE GOVERNMENT'S ROLE IN THIS AREA?

No. It has never been part of our program to estimate the impact of possible government withdrawal from the regulation and participation of market information on migratory labor, because such withdrawal has never been contemplated.

WITH REGARD TO BARRIERS TO JOB MOBILITY

18. PLEASE SUPPLY THE SUBCOMMITTEE WITH ALL EXISTING DATA REFLECTING THE DEGREE, EXTENT, NATURE, AND CHARACTERISTICS OF INTRA- AND INTER-MARKET MOBILITY OF MIGRATORY FARMWORKERS.

Migratory farm workers customarily work in southern areas in the winter fruit and vegetable harvesting and cultivating activities. They begin their annual trek northward in the early spring to work mainly in fruits and vegetables. In California, the leading employer of migrants, they cultivate cotton and vegetables and harvest a variety of spring fruits and vegetables. Other western and some north central States employ migrants in sugar-beet cultivation and the strawberry harvest. They work in spring fruit and vegetables harvesting in Atlantic Coast States. Summer and fall are the most active periods for migrants; they are engaged chiefly in harvesting tomatoes, grapes, peaches, pears, melons, cherries, blueberries, pickles, apples, and tobacco.

In order of magnitude, the leading States in employment of migratory farm workers continue to be California, Florida, Michigan, and Texas. Other States with significant employment of migratory farm workers are: Washington, Oregon, New York, and Ohio. (See Tables 8 and 9.)

The peak employment of migratory agricultural workers in areas reporting to the U. S. Training and Employment Service usually occurs in August, with 217,300 employed in that month in 1969. Most of these were interstate migratory workers. A distribution of intrastate and interstate migratory workers as well as local and Puerto Rican seasonal farm workers for that month is shown on Table 11.

Data on the characteristics of migratory workers are published by the USDA in its annual bulletin, The Hired Farm Working Force. (See USDA reply to Question 3.)

Table 8. Man-Months of Migratory Labor, by State, United States, 1969, and Change from 1968

Numbers in thousands

State	Man-months of migratory labor	
	1969	Change from 1968
United States-----	1,293.7	- 70.4
California-----	337.6	- 10.5
Florida-----	128.2	- 14.1
Michigan-----	112.3	- 7.1
Texas-----	72.4	+ 3.4
Washington-----	60.0	+ 2.2
Oregon-----	48.2	- .6
New York-----	45.8	- 4.5
New Jersey-----	45.1	- 10.5
Ohio-----	41.1	- 8.8
Other States-----	407.5	- 9.7

NOTE

NOTE: Due to rounding, figures may not add to totals.

SOURCE: In-Season Farm Labor Reports of the Manpower Administration.

Table 9.

Peak Employment and Period of Employment of Domestic Migratory Workers ^{1/}
in Agriculture, States which Used Migratory Workers, 1969

State	Peak no. migrants employed	Periods in which migrants were employed	Date of peak employment
California-----	61,000	Jan.-Dec.	Sept.
Michigan-----	36,700	April-Nov.	Aug.
Florida-----	22,500	Jan.-Dec.	Feb.
Texas-----	21,100	Jan.-Dec.	July
Ohio-----	15,100	May-Oct.	Sept.
Oregon-----	14,000	Jan.-Dec.	June
New York-----	12,000	May-Nov.	Sept.
Washington-----	10,000	Jan.-Dec.	Oct.
New Jersey-----	10,700	April-Nov.	Aug.
Oklahoma-----	9,400	Jan.-Dec.	June
Colorado-----	8,200	April-Nov.	June
North Carolina-----	8,700	Jan.-Dec.	July
Indiana-----	8,300	April-Oct.	Sept.
Idaho-----	7,900	Mar.-Nov.	June
Montana-----	6,700	Jan.-Dec.	Aug.
South Carolina-----	6,200	May-Oct.	July
Pennsylvania-----	5,900	May-Nov.	Sept.
Minnesota-----	5,500	June-Nov.	June
North Dakota-----	5,000	April-Oct.	Aug.
Arizona-----	4,700	Jan.-Dec.	April
Kansas-----	4,400	April-Nov.	July
Virginia-----	4,300	May-Nov.	July
Connecticut-----	4,200	Jan.-Dec.	Aug.
Wyoming-----	4,100	May-Sept.	June
Illinois-----	4,000	May-Oct.	Sept.
Nebraska-----	3,400	June-Aug.	June
Massachusetts-----	2,200	May-Dec.	Aug.
Wisconsin-----	2,100	May-Oct.	Aug.
Delaware-----	2,100	May-Oct.	Aug.
Maryland-----	1,600	April-Nov.	Aug.
Iowa-----	1,600	May-Oct.	July
Alabama-----	1,500	May-Nov.	June
Arkansas-----	1,500	May-Sept.	May
Utah-----	1,400	May-Oct.	July
New Mexico-----	1,200	Mar.-Dec.	July
Kentucky-----	900	May-Nov.	June
Louisiana-----	800	April-Nov.	May
Neveda-----	700	July-Sept.	Aug.
Maine-----	600	Aug.-Oct.	Oct.
West Virginia-----	500	Aug.-Nov.	Oct.
Missouri-----	300	June-Oct.	Aug.
New Hampshire-----	200	June-Oct.	Sept.
Tennessee-----	200	May-Oct.	May
Vermont-----	100	Sept.-Oct.	Oct.
Georgia-----	100	June	June
Rhode Island-----	40	October	Oct.

^{1/} Migrants include intrastate and interstate workers.

SOURCE: In-Season Farm Labor Reports of the Manpower Administration.

Table 10. Estimated Employment of Migratory Agricultural Workers-(continued)

State	Thousands of workers										
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.
Alabama	0.3	0.3	0.7	1.2	1.7	6.1	6.2	6.7	3.6	2.2	1.1
Arkansas	0	0	0	0	0	3.4	2.4	2.8	0	0	0
California	0	0	0	0	0	0	0	0	0	0	0
Florida	0	0	0	0	0	0	0	0	0	0	0
Georgia	0	0	0	0	0	0	0	0	0	0	0
Illinois	0	0	0	0	0	0	0	0	0	0	0
Indiana	0	0	0	0	0	0	0	0	0	0	0
Iowa	0	0	0	0	0	0	0	0	0	0	0
Kansas	0	0	0	0	0	0	0	0	0	0	0
Michigan	0	0	0	0	0	0	0	0	0	0	0
Minnesota	0	0	0	0	0	0	0	0	0	0	0
Mississippi	0	0	0	0	0	0	0	0	0	0	0
Missouri	0	0	0	0	0	0	0	0	0	0	0
Montana	0	0	0	0	0	0	0	0	0	0	0
Nebraska	0	0	0	0	0	0	0	0	0	0	0
Nevada	0	0	0	0	0	0	0	0	0	0	0
New Hampshire	0	0	0	0	0	0	0	0	0	0	0
New Jersey	0	0	0	0	0	0	0	0	0	0	0
New Mexico	0	0	0	0	0	0	0	0	0	0	0
New York	0	0	0	0	0	0	0	0	0	0	0
North Carolina	0	0	0	0	0	0	0	0	0	0	0
North Dakota	0	0	0	0	0	0	0	0	0	0	0
Ohio	0	0	0	0	0	0	0	0	0	0	0
Oklahoma	0	0	0	0	0	0	0	0	0	0	0
Oregon	0	0	0	0	0	0	0	0	0	0	0
Pennsylvania	0	0	0	0	0	0	0	0	0	0	0
Rhode Island	0	0	0	0	0	0	0	0	0	0	0
South Carolina	0	0	0	0	0	0	0	0	0	0	0
South Dakota	0	0	0	0	0	0	0	0	0	0	0
Tennessee	0	0	0	0	0	0	0	0	0	0	0
Texas	0	0	0	0	0	0	0	0	0	0	0
Vermont	0	0	0	0	0	0	0	0	0	0	0
Virginia	0	0	0	0	0	0	0	0	0	0	0
Washington	0	0	0	0	0	0	0	0	0	0	0
West Virginia	0	0	0	0	0	0	0	0	0	0	0
Wisconsin	0	0	0	0	0	0	0	0	0	0	0
Wyoming	0	0	0	0	0	0	0	0	0	0	0

1/ Less than 50 workers.

NOTE: Due to rounding, figures may not add up to totals.

SOURCE: In-Census Farm Labor Reports of the Immigration Administration for the 15th of each month.

Table 11.

Employment and Origin of Seasonal Hired Agricultural Workers,
by State, August 15, 1969

State	Total <u>1/</u>	Local	Intra- state	Inter- state	Contract hired Mexicans <u>2/</u>
U.S. Totals-----	980,152	770,837	64,544	152,771	9,144
Alabama-----	4,225	3,430	0	795	0
Arizona-----	10,475	4,700	414	355	0
Arkansas-----	3,700	3,700	0	0	0
California-----	159,530	111,840	26,070	21,620	0
Colorado-----	10,285	4,970	976	4,339	0
Connecticut-----	13,200	8,960	0	4,240	1,730
Delaware-----	4,235	2,165	0	2,070	317
Florida-----	27,391	26,896	235	260	0
Georgia-----	22,255	22,255	0	0	0
Idaho-----	9,965	6,120	725	3,120	0
Illinois-----	6,758	3,765	27	2,961	0
Indiana-----	5,717	1,244	0	4,473	0
Iowa-----	10,765	10,011	486	268	0
Kansas-----	10,385	8,445	990	950	0
Kentucky-----	13,534	13,134	380	20	0
Louisiana-----	2,450	2,450	0	0	0
Maine-----	4,809	4,499	60	250	0
Maryland-----	6,305	4,471	0	1,834	79
Massachusetts-----	12,478	10,302	0	2,176	1,137
Michigan-----	58,782	22,035	1,725	35,022	0
Minnesota-----	3,255	3,097	11	147	0
Mississippi-----	2,120	2,120	0	0	0
Missouri-----	2,945	2,622	0	323	0
Montana-----	11,872	5,170	2,200	4,502	0

See footnotes at end of table.

Table 11. (Continued)

Employment by State, August 15, 1969 - (continued)					
State	Total ^{1/}	Local	Intra- state	Inter- state	Contract Puerto Ricans ^{2/}
Nebraska-----	7,384	7,214	50	120	0
Nevada-----	750	100	100	550	0
New Hampshire-----	1,290	1,179	0	71	59
New Jersey-----	17,100	6,355	0	10,745	4,780
New Mexico-----	1,945	1,200	45	700	0
New York-----	17,605	8,650	1,375	7,580	474
North Carolina-----	179,800	172,445	3,030	4,325	0
North Dakota-----	9,870	4,889	1,892	3,089	0
Ohio-----	23,513	14,652	264	8,597	0
Oklahoma-----	12,510	11,125	945	440	0
Oregon-----	66,645	53,965	2,850	9,830	0
Pennsylvania-----	14,685	9,960	445	4,280	575
South Carolina-----	23,425	19,450	2,625	1,350	0
Tennessee-----	23,085	23,045	0	40	0
Texas-----	113,470	98,725	14,520	225	0
Utah-----	2,095	1,240	55	800	0
Virginia-----	8,168	5,430	0	2,738	0
Washington-----	36,797	29,920	2,037	4,840	0
West Virginia-----	1,028	638	0	390	0
Wisconsin-----	7,686	5,565	0	2,121	0
Wyoming-----	1,910	1,684	11	215	0

^{1/} All domestic workers.^{2/} The number of contract Puerto Rican workers is a subtotal of interstate migrant workers.

SOURCE: In-Season Farm Labor Reports of the Manpower Administration.

19. FOR EACH OF THE FOLLOWING FACTS OF MOBILITY WITHIN THE FARM LABOR MARKET AND BETWEEN THE FARM AND NONFARM LABOR MARKETS, PLEASE INDICATE ALL THE AVAILABLE DATA (INCLUDING COLLECTION TECHNIQUES AND STATISTICAL RELIABILITY), AND PLEASE SUPPLY SUCH DATA. IF NO SUCH DATA IS AVAILABLE, PLEASE EXPLAIN WHY.
- a. OCCUPATIONAL MOBILITY OF MIGRATORY FARMWORKERS - ANNUAL EXTENT BY VARIOUS DEMOGRAPHIC CHARACTERISTICS OF WORKERS (INCLUDING, BUT NOT LIMITED TO, AGE, SEX, MARITAL STATUS, EDUCATIONAL LEVEL, SKILL LEVEL, FAMILY SIZE, CHILDREN'S SCHOOL STATUS, OTHER HOUSEHOLD WORKERS, PARENTS' OCCUPATION, PLACE OF RESIDENCE). PLEASE ALSO SUPPLY COMPARABLE DATA FOR NON-MIGRATORY FARM LABOR AND NONFARM WORKERS.
 - b. INTERGENERATIONAL OCCUPATIONAL MOBILITY - EXTENT BY DEMOGRAPHIC CHARACTERISTICS WITH COMPARABLE LABOR MARKET DATA FOR OTHER WORKERS (SEE "a" ABOVE).
 - c. JOB MOBILITY - EXTENT BY DEMOGRAPHIC CHARACTERISTICS WITH COMPARABLE LABOR MARKET DATA FOR OTHER WORKERS (SEE "a" ABOVE), AND CHANGE IN EXTENT AND NATURE OF JOB MOBILITY OVER PRECEDING 10 YEARS.
 - d. GEOGRAPHIC MOBILITY - EXTENT BY DEMOGRAPHIC CHARACTERISTICS WITH COMPARABLE LABOR MARKET DATA FOR OTHER WORKERS, FOR CHANGES IN PERMANENT RESIDENCE AND TEMPORARY CHANGES IN RESIDENCE, ALL CROSS-SECTIONALLY AS WELL AS OVER TIME (SEE "a" ABOVE). INCLUDE DATA ON INTER- AND INTRA-STATE MOBILITY.
 - e. FUTURE MOBILITY PROJECTIONS - EXTENT BY DEMOGRAPHIC CHARACTERISTICS WITH COMPARABLE LABOR MARKET DATA FOR OTHER WORKERS (SEE "a" ABOVE).

The last major study of occupational mobility in the Department of Labor was made in January 1966 by the Bureau of Labor Statistics based on supplementary questions to the monthly survey of the labor force conducted by the Bureau of the Census through its Current Population Survey (Special Labor Force Report No. 84). Data in the report relate to a national sample of persons 18 years of age in the civilian non-institutional population at that time. Respondents who were employed in the survey week were asked if they were doing the same kind of work a year ago. If not, they were asked for the industry and occupation of their previous employment. This study showed that 748,000 male farm laborers and foremen were employed in January 1966, of whom 7.8 percent reported a different occupation in January 1965 for an occupational mobility rate of 8.6 percent, about in line with the rate of 9.9 percent for all occupations. The occupational mobility rate was expressed as the proportion of persons employed in both January 1965 and January 1966 who had a different occupation in January 1965. For women, the farm laborer occupational mobility rate was lower--4.5

percent, compared with 6.9 percent for women in all occupations. It should be noted that these figures do not apply to "migratory" farm workers, but to all farm workers. Moreover, they do not measure occupational mobility out of farm work to other occupations which would yield perhaps a higher rate than that shown above.

Some insights into occupational mobility of migratory farm workers are found in a research study undertaken for the Manpower Administration by the Department of Rural Sociology, Rural Manpower Center, of Michigan State University (Mexican-Americans in Transition, Migration and Employment in Michigan Cities, Harvey M. Choldin and Grafton D. Trout, Jr., in process). The study was based on a randomly-selected sample of 695 Mexican-American households in Michigan outside of the Detroit Metropolitan Area. About one-fourth of the household heads were born in Mexico and 60 percent were born in Texas. More than 80 percent of the respondents who originated in Texas came from the Lower Rio Grande Valley, while most of the remainder lived around San Antonio, where a large proportion were migratory farm workers. The process of settlement in Michigan appears to be one in which the farm worker works in one or more agricultural areas in the State, then moves to a city to work, and settles there. A large proportion of the former migratory farm workers shift into nonfarm occupations classified as drivers or operatives, and many gravitated toward the metal industries.

This study also makes some comparisons between Mexican-Americans who resettled and those who remained in the migratory stream. Generally, age, education, isolation, family structure, size of hometown, and exposure to nonfarm jobs were among factors related to a desire to shift to nonfarm employment.

Another study concerned with farm-employed persons who change to nonfarm occupations is Occupational Mobility and Migration from Agriculture, by Dale C. Hathaway and Brian E. Perkins (published in Rural Poverty in the United States, a report by the President's National Advisory Commission on Rural Poverty, May 1968). The data for this study came from the one-percent sample of continuous work history maintained by the Social Security Administration. Thus, the coverage was limited to agricultural workers whose employment is covered under OASI. The study covers both occupational mobility and geographic migration. Some of the main conclusions are:

- - Occupational mobility is most common among the young, farm wage workers, whites, and individuals from high income counties located close to SMSA's.
- - Occupational stability after changing jobs was greatest for the young, persons with higher incomes in farming, who were farm wage workers in agriculture, and came from high income counties.

- - In general, the mobility process works less well for those who need it most.

An interesting finding of the Matheway-Perkins study is that there is a certain amount of back-movement toward farm work on the part of persons who evidently had tried to move into nonfarm employment but found their earnings were lower.

The Choldin-Trout study referred to above has some information on the intergenerational mobility of those migratory workers who settled in Michigan cities. According to this study only one of six of this group had the same occupation as his father, while another one of six presently works in an occupation that may be considered "lower" than that of his father. Nearly two-thirds had some upward mobility, mainly from the farm labor category to nonfarm factory work. This group, having resettled, is, of course, not typical of all migratory farm workers.

One of the best studies of the geographic mobility of migratory farm workers is William H. Metzler's and Frederic O. Sargent's Migratory Farmworkers in the Midcontinent Stream, (U. S. Department of Agriculture, Agricultural Research Service, in cooperation with Texas Agricultural Experiment Station), which shows the major migratory routes followed by Texas-Mexican farm migrants. An earlier study by Metzler traced patterns of migration of Atlantic Coast migrants living in the Belle Glade area (Migratory Farm Workers in the Atlantic Coast Stream, U.S.D.A. Cir. 966, 1955). These studies are now out of date because of recent shifts in production methods as well as the discontinuance of foreign workers which has changed requirements for U. S. migratory workers.

A comprehensive discussion of Agricultural Labor Mobility by Paul B. Miller, is found in Fruit and Vegetable Harvest Mechanization, Manpower Implications, B. F. Cargill and G. E. Rossmiller, editors, Rural Manpower Center, Michigan State University, 1969, sponsored by the Manpower Administration. A copy of this volume is enclosed. Miller's article contains recent statistics on the geographic distribution of Texas migratory workers. (Enclosure 1).

Another study of occupational and geographic mobility of migratory agricultural workers who have relocated in Wisconsin stresses cultural factors as major determinants in mobility (Mark Edward Erenburg, A Study of the Potential Relocation of Texas-Michigan Migratory Farm Workers to Wisconsin, a Ph.D. thesis, University of Wisconsin, 1969, prepared under grant from the Manpower Administration). Findings of this study indicate that relocation decisions are related to the degree of assimilation of dominant culture values. The more "Americanized" migratory farm workers are, the more likely they are to respond to wage differentials and other economic incentives.

This finding is also borne out by mobility assistance projects sponsored by the Department of Labor under the Manpower Development and Training Act which suggest that a considerable amount of supportive service and orientation is necessary for successful relocation among migrants with strong localized cultural ties.

A mobility assistance project sponsored by the Manpower Administration demonstrated the feasibility of government programs to facilitate the readjustment of Mexican-American workers, including migratory farm workers. Approximately 750 residents of the Lower Rio Grande Valley were retrained and placed in industrial jobs with the Ling-Temco-Vought Company in Fort Worth. The project demonstrated the need for a coordinated approach involving education, housing, health agencies, as well as the employment service and private industry. This project is described in the context of the entire problem of economic opportunity for low-income Mexican-Americans in the enclosed article by Niles M. Hansen, entitled "Improving Economic Opportunity for the Mexican Americans". The article is based on a section of Dr. Hansen's recent study, Urban and Regional Dimensions of Manpower Policy, prepared under contract to the Manpower Administration. (Enclosure 2).

A broader discussion of the literature related to the adjustment of rural workers, including migratory farm workers, to an urban setting has just been released. See Varden Fuller, Rural Worker Adjustment to Urban Life, An Assessment of Research, Institute of Labor and Industrial Relations, University of Michigan-Wayne State University and the National Manpower Policy Task Force, February 1970, copy enclosed (Enclosure 3).

20. HAVE STUDIES BEEN CONDUCTED TO DETERMINE THOSE FACTORS WHICH INFLUENCE OCCUPATIONAL, JOB, AND GEOGRAPHICAL MOBILITY PATTERNS, AND RATE OF MIGRATORY FARM WORKERS? IF SO, PLEASE SUPPLY THESE STUDIES AND THE DATA ON WHICH RESULTS ARE BASED. IF NO STUDIES ARE AVAILABLE, PLEASE EXPLAIN WHY NOT.

See reply to Question 19.

21. HAVE STUDIES BEEN CONDUCTED TO DETERMINE THE SOCIO-ECONOMIC STATUS OF MIGRATORY FARMWORKERS RELATIVE TO OTHER LABOR MARKET GROUPS, CHANGES IN SOCIO-ECONOMIC STATUS OVER TIME, AND FACTORS INFLUENCING SOCIO-ECONOMIC STATUS OF MIGRATORY FARM WORKERS? IF SO, PLEASE SUPPLY STUDIES AND DATA ON WHICH RESULTS ARE BASED. IF NO STUDIES ARE AVAILABLE, PLEASE EXPLAIN WHY NOT.

See USDA reply. A study was recently completed by the Advisory Committee on Farm Labor Research, California Legislature, Assembly Committee on Agriculture, with the assistance of the California Department of Employment and the financial support of the U. S. Department of Labor (The California Farm Labor Force: A Profile, April 1969). This study has a section on migrants in the California labor force which deals primarily with earnings, but also with the extent of unemployment, attachment to the work force, and other social and economic characteristics. A copy is enclosed. (Enclosure 4.)

22. HAVE STUDIES BEEN CONDUCTED TO DETERMINE THE SPECIFIC ROLES OF EDUCATION, LANGUAGE, CULTURE, RACIAL DISCRIMINATION, AND LABOR MARKET INFORMATION IN INFLUENCING MOBILITY (OF ALL TYPES) OF MIGRATORY FARM WORKERS. IF SO, PLEASE SUPPLY STUDIES AND DATA ON WHICH RESULTS ARE BASED. IF NOT, PLEASE EXPLAIN WHY NO SUCH STUDIES HAVE BEEN MADE.

The studies referred to in reply to Question 19 cover many of these points.

23. SINCE THERE EXIST MIGRANT RELOCATION AND RETRAINING PROGRAMS, DO COMPREHENSIVE EVALUATIONS OF THESE PROGRAMS EXIST? IF NO SUCH EVALUATIONS HAVE BEEN MADE, PLEASE EXPLAIN WHY NOT.

The Texas Migrant E&D Project has been in operation for over a year. This is a pilot effort designed to develop a capability within the employment services to provide or arrange for a broad range of services to migrants and their families. An evaluation of the first year project experience has been made by ABT Associates. This report was designed to focus on problem areas to help restructure the project for the second year. The second year's program will stress training for year-round employment and assistance in settling out of the migrant stream. A copy has been provided to the Subcommittee Staff.

24. HAVE EVALUATIONS OF DIFFERENT STATE AND FEDERAL, AGENCY AND DEPARTMENT, PROGRAMS AND PROGRAM COMPONENTS BEEN COMBINED AND ANALYZED AS A WHOLE? IF SO, PLEASE SUPPLY ALL SUCH OVERALL EVALUATIONS. IF NO SUCH OVERALL EVALUATIONS HAVE BEEN UNDERTAKEN, PLEASE EXPLAIN WHY NOT.

The Manpower Administration has had independent evaluations of manpower programs as a whole. One of these, entitled Federal Manpower Programs, An Evaluation by the National Manpower Advisory Committee, was issued in March 1968. Another, entitled Federal Training and Work Programs in the Sixties, by Sar A. Levitan and Garth L. Mangum, Institute of Labor and Industrial Relations, the University of Michigan-Wayne State University, 1969, was supported in part by a grant from the Ford Foundation. These evaluations do not relate specifically to migratory workers, but copies are enclosed for the information of the Subcommittee (Enclosures 5 and 6).

In January 1968 a Rural Manpower Services Task Force consisting of Varden Fuller, Thomas H. Bride, and Daniel Sturt issued its report. The report examined programs of the Department of Labor's Bureau of Employment Security in relation to rural manpower, including migratory workers. A number of recommendations were made for reorganizing and reorienting rural manpower services. (Enclosure 7).

Also enclosed is Farm Labor in the United States, C. E. Bishop, editor, Columbia University Press, 1967. This volume contains critical papers on farm manpower problems and policies, presented at a conference sponsored by the Manpower Administration. (Enclosure 8).

Generally, programs for migratory farm workers are reviewed continuously by the Farm Labor and Rural Manpower Service in the course of operations.

WITH REGARD TO WORKER AND EMPLOYER ATTITUDES:

25. HAVE DATA BEEN GATHERED AND STUDIES MADE WHICH WOULD INDICATE THE NATURE OF THE WORK ATTITUDES OF MIGRATORY FARMWORKERS RELATIVE TO OTHER WORKERS IN THE ECONOMY? DO LONGITUDINAL DATA EXIST SHOWING CHANGES IN THESE ATTITUDES? HAVE THE CAUSES OF THESE ATTITUDES BEEN EXPLORED? PLEASE SUPPLY US WITH ALL SUCH STUDIES AND DATA IF THEY EXIST. IF NO SUCH STUDIES HAVE BEEN MADE, PLEASE EXPLAIN WHY NOT.

Studies referred to in reply to Question 19 have sections on attitudes of migrant workers toward farm and nonfarm employment and aspirations for children, which indirectly reflect such attitudes.

26. HAVE INVESTIGATIONS BEEN MADE OF EMPLOYER HIRING AND EMPLOYMENT POLICIES FOR MIGRATORY FARMWORKERS AS COMPARED WITH NONMIGRANT WORKERS SPECIFICALLY WITH RESPECT TO DISCRIMINATION ON THE BASIS OF RACE, LANGUAGE, AGE, PLACE OF RESIDENCE, SEX, AND MIGRANCY STATUS? IF NO SUCH STUDIES HAVE BEEN MADE, PLEASE EXPLAIN WHY NOT.

Job orders for interarea recruitment of workers are reviewed at State, regional, and national levels to insure that no discriminatory provisions are included.

WITH REGARD TO THE NATURE OF DEMAND:

27. WHAT EFFORTS HAVE BEEN MADE TO DESCRIBE THE EXACT NATURE OF THE DEMAND FOR MIGRATORY FARMWORKERS (FOR EXAMPLE, IN TERMS OF REQUISITE SKILLS AND ABILITIES, JOB COMPONENTS, ETC.)?
- PLEASE SUPPLY DATA WHICH REFLECT AS ACCURATELY AS POSSIBLE THE CURRENT NATURE OF THE DEMAND FOR MIGRATORY FARMWORKERS AND THE BEHAVIOR OF THAT DEMAND OVER THE PRECEDING 10 YEARS, AND IN 1930, 1940, 1950, AND 1955, AS WELL AS DEMAND PROJECTED INTO THE FUTURE.
 - PLEASE INCLUDE DATA TO DESCRIBE THE SOURCE OF THE DEMAND (I.E., INCLUDING BUT LIMITED TO EMPLOYERS BY SIZE, CROPS INVOLVED, GEOGRAPHIC LOCATION, DEGREE OF ROMAGRICULTURAL INTERESTS, ETC.).
 - IF SUCH INFORMATION IS NOT AVAILABLE, SPECIFICALLY EXPLAIN WHY THIS IS SO.

Refer to replies to Questions 6 and 10 for discussion of how demand data are obtained on a current basis. The Manpower Administration has several research projects underway which are designed to study trends in demand for farm workers and outlook for the future, taking into consideration mechanization of fruit and vegetable harvesting and other crop activities. One of these is Fruit and Vegetable Harvest Mechanization, B. F. Cargill and G. E. Rossmiller, editors. (Enclosure 9. See also Enclosure 1.) Another study entitled Agricultural Labor in the Northeast States, by James S. Holt, Reuben W. Hecht, and Reil B. Gingrich, Department of Agricultural Economics and Rural Sociology, the Pennsylvania State University, relating to changes in the agricultural industry and in the farm labor market in the Northeastern States, is expected to be completed within the next few months. A third study entitled The Impact of Mechanical Harvesting on Demand for Labor in the Florida Citrus Industry, by Kamal Dow, is also underway.

28. WHAT HAS BEEN THE BEHAVIOR OF LABOR PRODUCTIVITY (ESPECIALLY RELATED TO THE INTRODUCTION OF TECHNOLOGICAL ADVANCES) IN AGRICULTURE (AND SPECIFICALLY IN THOSE AGRICULTURAL SECTORS USING MIGRATORY FARMWORKERS) OVER THE PAST 10 YEARS, AND IN 1930, 1940, 1950, AND 1955? WHAT WILL BE FUTURE BEHAVIOR? WHAT HAS BEEN, AND WHAT WILL BE, THE BEHAVIOR OF MIGRATORY FARMWORKER EARNINGS OVER THESE TIME PERIODS? PLEASE SUPPLY ALL DATA RELEVANT TO THESE DETERMINATIONS. IF NO SUCH DATA ARE AVAILABLE, PLEASE EXPLAIN WHY NOT.

(To be answered by USDA.)

29. WHAT HAS BEEN THE RELATIONSHIP BETWEEN THE PRODUCTIVITY OF MIGRATORY FARMWORKERS AND THEIR LEVEL OF EARNINGS IN AGRICULTURE COMPARED WITH PRODUCTIVITY AND EARNINGS OF NONMIGRATORY AGRICULTURAL AND NON-AGRICULTURAL WORKERS OVER THE PRECEDING 10 YEARS, AND IN 1930, 1940, 1950, AND 1955. WHAT WILL BE THE RELATIONSHIPS IN THE FUTURE? PLEASE SUPPLY ALL DATA BEARING ON THESE QUESTIONS. IF NO DATA ARE AVAILABLE, PLEASE EXPLAIN WHY NOT.

(To be answered by USDA.)

30. PLEASE INDICATE THE AMOUNT OF MONEY (DIRECT AND INDIRECT - SOURCES AND RECIPIENTS) EXPENDED ANNUALLY TO IMPROVE AGRICULTURAL TECHNOLOGY - CURRENTLY AND OVER THE PRECEDING 10 YEARS. WHAT ARE PROJECTED EXPENDITURES FOR FUTURE YEARS?

(To be answered by USDA.)

31. PLEASE INDICATE AMOUNT OF MONEY SPENT (DIRECT AND INDIRECT - SOURCES AND RECIPIENTS) TO REDUCE OUTPUT OF AGRICULTURE, AND/OR SUPPORT AGRICULTURAL PRICES - CURRENTLY AND ANNUALLY OVER THE PRECEDING 10 YEARS. WHAT WILL BE THE EXTENT AND NATURE OF FUTURE EXPENDITURES?

(To be answered by USDA.)

32. PLEASE INDICATE SUM SPENT (DIRECT AND INDIRECT - SOURCES AND RECIPIENTS) CURRENTLY, ANNUALLY OVER THE PRECEDING 10 YEARS, AND PROJECTED FUTURE EXPENDITURES, TO REDUCE LABOR SUPPLY IN AGRICULTURE, AND ESPECIALLY IN MIGRANT AGRICULTURE, NECESSITATED BY EFFORTS TO RELATIVELY DECREASE THE DEMAND FOR AGRICULTURAL LABOR. PLEASE SUPPLY ALL DATA ON WHICH FIGURES ARE BASED.

The Department of Labor does not have programs specifically designed to reduce labor supply in agriculture, except for the termination of the foreign worker program since 1965. U. S. workers who are forced by technological change and shortening of agricultural work seasons to seek

nonfarm employment, or who voluntarily wish to change from farm to nonfarm may be assisted through regular programs of job market information, referral and placement, and in some cases through MDTA training to acquire skills for nonfarm occupations.

33. PLEASE INDICATE MEASURES OF RELATIVE EFFECTIVENESS OF MONIES SPENT TO CHANGE THE NATURE OF THE DEMAND FOR AGRICULTURAL (AND MIGRATORY AGRICULTURAL) LABOR COMPARED WITH MONIES SPENT TO CHANGE LABOR SUPPLY. PLEASE SUPPLY ALL DATA ON WHICH THESE MEASURES ARE BASED. IF NO DATA ARE AVAILABLE, PLEASE EXPLAIN WHY NOT.

The Department of Labor does not have programs to change the nature of demand for agricultural (and migratory agricultural) labor, or programs to change the labor supply except as indicated in reply to Question 32.

UNITED STATES
DEPARTMENT OF AGRICULTURE
RESPONSE TO
INTERROGATORIES OF
MIGRATORY LABOR SUBCOMMITTEE

I. DEMOGRAPHIC DATA

Question

1. Do we know how many migratory farmworkers, and working and non-working dependents and relatives, there are in this country?

Answer

The 1969 Hired farm working force survey shows that 257,000 persons did some migratory farmwork for cash wages during the year. This was 22,000 less than in 1968 and a continuation of the decline in the number of persons doing such work, which has been in process since 1965 (table 1).

Table 1.--Number of domestic farm wageworkers, domestic migratory farm wageworkers, and foreign nationals, 1949-69

Year	Domestic farm wageworkers				Foreign nationals
	Total	Migrants	Migrants who did FWW only 1/		
	Thou.	Thou.	Thou.	Thou.	
1969	2,571	257	146		16
1968	2,919	279	158		13
1967	3,078	276	170		24
1966	2,763	351	184		24
1965	3,128	466	252		36
1964	3,370	286	218		200
1963	3,597	386	256		209
1962	3,622	380	---		217
1961	3,488	295	---		310
1960	3,693	409	---		335
1959	3,577	477	---		455
1957	3,962	427	---		452
1956	3,575	427	---		460
1954	3,009	365	---		321
1952	2,980	352	---		210
1949	4,140	422	---		113

1/ Data not available where dashes are shown.

Source: Domestic, Hired Farm Working Force, USDA; Foreign Nationals, Farm Labor Developments, USDL.

The basis upon which these estimates are made is data collected during the December Current Population Survey (CPS) conducted by the Bureau of the Census and sponsored by the Economic Research Service (ERS) of the U.S. Department of Agriculture. The number of migratory, regular, year-round, and other categories of the hired farm working force is a regular and continuing part of the data obtained and published annually in the Hired Farm Working Force and thus a part of the ERS series.

The number of relatives, non-working dependents, and other aspects of sub-groups are not regularly obtained. They represent a much smaller segment of the population than the CPS was designed to measure, thus often the data obtained from questions pertaining to these sub-groups generates problems of sampling efficiency. Such was the case with special questions added to the 1967 survey to collect data on the number of working and non-working dependents of migratory workers traveling the migratory route. Therefore, other approaches are needed to assure more reliable answers to aspects of these questions.

Question

- 1a. What is the current standard for determining whether a worker is to be considered a migrant farmworker?

Answer

Farm wageworkers are classified as migratory, if during the survey year they left their homes temporarily (at least overnight) to do farmwork for cash wages in another county within the same State or in another State with the expectation of returning home at the

conclusion of their period of farm wagework. Persons who had no usual place of residence and did farm wagework during the year in two or more counties, either in the same or in different States, were classified as migratory farm wageworkers. This and other definitions pertaining to hired farmworkers is contained in the annual Hired Farm Working Force publication.

Question

1b. Are all data relating to migratory farmworkers, and working and non-working dependents and relatives, based on these definitions? If so, what are the reasons for choosing these particular definitions? If not, what other definitions are used? What are the reasons for using each such definition?

Answer

The Hired Farm Working Force (HFWF) is Agriculture's only series providing demographic data on migratory workers. These data are obtained through the CPS household survey and are based on the preceding (question 1a) definition of migrant.

This definition was chosen to distinguish between the farmworker who stays in one location and one who moves from area to area, whether inter-or intra-state, and because it is within the operational limitation of the survey interview situation. Also this definition differentiates between persons migrating permanently from one place to another and those who leave home temporarily to do farmwork.

Data relating to migrants published by the U.S. Department of Labor -- which are collected through the State employment service

agencies and those collected through the farm establishment surveys of USDA's Statistical Reporting Service -- are based on a definition which differs little from that used in the HFWF (see statement by USDL).

Question

2. For each of the last 10 years, and in 1930, 1940, 1950, and 1955, and for future years where projections have been made, please answer the following: (For each figure given, please specify the definition of migrancy used, the source of the data, and indicate measures of statistical reliability. If no data are available, please explain why.)
- 2a. How many migratory farmworkers have there been (will there be) in this country? Please indicate foreign nationals separately.

Answer

The Department's Hired Farm Working Force series was begun in 1945, when questions were added to the Current Population Survey of the Census Bureau (which was started in 1943 to measure national employment and unemployment) to obtain information on domestic persons doing farm wagework. In 1949, questions were added to obtain the number of persons doing migratory farmwork. These numbers are shown in table 1 except for five intervening years between 1949 and 1959 when no data on migrants was obtained.

These data are based on the definition of migrancy given in answer to question 1a and standard errors for indicating their statistical reliability are published in each issue of the annual HFWF. The standard error for the 257,000 migrants shown in table 1 for 1969, for example, is approximately 29,000. This means that the chances are 68 out of 100 that the estimate (257,000) would differ from a

complete census by less than 29,000. This and other illustrations, as well as a discussion of the reliability of the estimates are contained in Appendix A of the 1969 HFWF. A copy of this report along with copies of Volume 2 and 7 of Agriculture Handbook No. 365 which discuss in detail the construction and use of USDA's farm labor series, is being forwarded under separate cover. 1/

The number of foreign nationals, shown in table 1, are from Farm Labor Developments, U.S. Department of Labor (USDL) and require no measure of statistical reliability since they are an actual count rather than a sample survey.

We have not made estimates of the numbers of migrants in future years.

Question

2b. How many have done (will do) only migratory farmwork?

Answer

The HFWF survey obtains numbers of migrants doing farm wagework only during the survey year and has done so since 1963. These numbers are shown in table 1. However, they do not preclude the possibility that farm wagework performed by some of these workers consisted of both migratory and nonmigratory work. Prior to 1963, no separation was made in the series between those migrants doing farm wagework only and those doing both farm and nonfarm work.

1/ In addition to these publications, copies of all other USDA studies referred to in this paper will be included in the separate material package.

Question

2c. How many, and to what degree, have (will) migrant workers been (be) employed outside of agriculture? What other kind of jobs have been (will be) performed by these workers?

Answer

The numbers of migrants doing nonfarm work and days of such work are shown in table 2.

Table 2.--Number of migratory farm wageworkers doing nonfarm work and days of such work, U.S.

Year	Migratory Farmworkers		
	Nonfarm Job		Average number of days worked
	Total	Number of migrants who	
		worked at nonfarm work	
	Thou.	Thou.	No.
1969	257	111	116
1968	279	121	100
1967	276	106	94
1966	351	168	92
1965	466	213	100
1964	386	168	99
1963	386	130	78

These data indicate that the number of migratory farmworkers performing nonfarm work have declined since 1965 as has the total number of migrants. The proportion of total migrants performing nonfarm work shows a slight increase, however, as does the average number of days employed at nonfarm work.

Special questions added to the 1965 HFWF survey yielded data of sufficient statistical quality to enable the analysis and publication of some limited information on the type of nonfarm work performed by migrants.

The occupational groups used in obtaining these data, which are published in Domestic Migratory Farmworkers, AER No 121, ERS-USDA, September 1967, were traditional labor force classification and are defined as in the 1960 Census of Population.

Almost half of the 466,000 migratory farmworkers in 1965 did some nonfarm work. The majority of these workers (65 percent) did blue-collar work, primarily at the semi-skilled or unskilled level (table 3). Skilled craftsmen were relatively rare among the migrants. Fifteen percent held service jobs in restaurants, hotels, laundries, and other such firms. Only one-tenth did white-collar work, which reflects their low level of formal education.

Table 3.--Distribution of migratory farm wageworkers, by type of nonfarm work they performed in 1965

Occupation ^{1/}	Migratory Farmworkers	
	Number of	Percentage
	workers	distribution
	Thou.	Pct.
Total migrants	213	100
White-collar workers	23	11
Blue-collar workers	139	65
Craftsmen	21	10
Operatives	63	29
Laborers	55	26
Service workers	51	24
Private household	20	9
Other service	31	15

^{1/} Occupation refers to type of work done for longest period in 1965.

Question

3. What are the current sources of demographic data for the migratory farm working force? Specifically, can we classify and cross-classify this group by age, sex, marital status, educational level, school drop-out rate, English language proficiency, skill level, family size, children's school status, other household members (by number, occupation, time devoted), parents' occupation, and place of residence (by size, geographic location, industrial concentration, frequency of permanent change per year, and unemployment-underemployment-subemployment level)? (This list is not to be considered inclusive. If other personal characteristics and data can be identified, please state them.)

General Answer

As previously indicated, the source of demographic data published by USDA is an ERS sponsored questionnaire enumerated by the Census Bureau in their December Current Population Survey and published in the annual Hired Farm Working Force.

While the data which follow in response to the alphabetized parts of this and other questions show that considerable classification of data are made, there are both statistical and research limitations on the data. These limitations result from financially imposed space limitations on the CPS schedule, budget restrictions on the funds available to secure detailed cross-classification of data, a shortage of trained rural manpower analysts, and the small size of the sample. The sample does not permit, for example, geographical breaks lower than four regions -- Northeast, North Central, South, and West, for the total HFWF and only two (South and West) in the case of the smaller number of migrants.

Question

- 3a. Please supply us with as much such detailed demographic data as you have for the most current period as well as for each of the last 10 years, and in 1930, 1940, 1950, and 1955. Please explain fully the definitions and changes in definitions during the time periods on which the data are based. Please explain also the sources for such data and comment fully on their statistical reliability and inherent shortcomings, if any.

Answer

Tables 4-16 which follow (end of part II) contain the requested demographic characteristics on migratory farmworkers as published in the Hired Farm Working Force for those years they were collected. The source of this data and its statistical reliability are discussed in answer to questions 2 and 3 and the definition of migrant remained throughout the period as set forth in the answer to question 1a.

Question

- 3b. If data on any or all of the above-mentioned demographic data and personal characteristics are not available, please explain why.

Answer

See answer to question 2a for a discussion of the duration of the series and the general answer to question 3 for limitations on obtaining such data through this source.

Question

- 3c. Please supply us with analyses of changes in the demographic composition of the migratory farm labor force over the last 10 years, and projections for future change (including all assumptions on which the projections are based) which you possess.

Answer

The only demographic data on migratory farmworkers that is collected on a continuing basis by USDA are those published annually

in the Hired Farm Working Force. Data from this series on sex, age, color, and geographic residence are shown by several cross-classifications in the tables contained in this paper (see especially tables 4 through 9). They indicate that the sex ratio has remained about the same from 1962 through 1969 but the workers have become increasingly younger. In 1962, 40 percent of migrants were under 25 years of age, and by 1969 this proportion had increased to 63 percent. This trend toward younger migratory farmworkers has been among males rather than females with the percentage of males under 25 increasing from 37 percent to 68 percent, while the proportion of females under 25 years of age remained about the same. As the migrant labor force has become younger, it has also undergone a change in racial composition. During the 1961-1969 period, there was a precipitous decline, from 46 percent to about 8 percent, of Negro and other nonwhite races relative to white migratory workers. During the same period, there was also a shift from the major concentration of migrants residing in the South, declining from 57 percent of the total in 1961 to only 27 percent in 1969.

An ERS analysis of demographic and related facets stemming from special questions added to the HFWF in 1964 and 1965 is contained in the publication Domestic Migratory Farmworkers, AER No. 121, USDA. A copy of the report is enclosed with publications being forwarded under separate cover.

Question

3d. If no analysis of change and/or projections have been made, please explain why.

Answer

See answers to questions 3 through 3c.

- II. The Subcommittee's investigation of migrant farmworker manpower and economic problems by definition encompasses analysis of present and projected earnings and employment data. The following 12 aspects of earnings and employment are under consideration (the list is not to be considered as inclusive, and any additions are welcomed).

Question

4. Please supply the following information:

- 4a. Do there exist data series which reflect on the above 12 aspects (as enumerated in part II by the Subcommittee) of migratory farmworker earnings and employment? If so, specifically name each series. Please explain data acquisition and compilation techniques, and indicate the name of the person responsible for acquisition, compilation, and analysis of each series, and indicate the length of time-series data now available.

Answer

One of USDA's three farm labor series, the Hired Farm Working Force (HFWF), contains information on the 12 aspects discussed. The construction and use of the HFWF series, the ERS man-hours (of farm labor) and the Statistical Reporting Service's Farm Employment and Wage Rate series is contained in Volumes 2 and 7 of Agriculture Handbook No. 365, which is being forwarded your office along with other reference materials.

The data which follow in answer to the alphabetized parts of question 4 are from the HFWF series and are obtained (as discussed earlier) by an Economic Research Service (ERS) sponsored questionnaire which is enumerated in the Census Bureau's December Current Population Survey.

The data pertaining essentially to the following topics are contained in the indicated tables.

1. Level of earnings of migratory farm wageworkers from farm and nonfarm jobs (table 9).
2. Earnings by two geographic locations, South and West (table 9).
3. Comparable employment and earnings data for nonmigratory farm wageworkers (table 16).

In addition to the information being provided here and by USDL, the Social Security Administration may be able to provide information on withholdings (Subcommittee point No. II 3); the Office of Economic Opportunity and the Department of Health, Education and Welfare -- especially through the activities of the migrant health service -- may have useful information on part II and other aspects of your request.

As Director of Agricultural Economics, Dr. Don Paarlberg is the person in USDA with overall responsibility for the HFWF series and other matters pertaining to agricultural economics.

Question

- 4b. Please supply us with annual data (from "a") for the last 10 years and for 1930, 1940, 1950, and 1955.

Answer

As explained in response to question 2a, the HFWF series was not begun until 1945 and the small segment thereof pertaining to migrants was not begun until 1949 and became a permanent part of

the series in 1959. Within those restraints, those data which are available are presented in the tables (1-16) of this report.

Question

- 4c. Have cross-sectional studies been conducted which reflect on the above 12 aspects of migrant farmworker earnings and employment? If so, specifically name each series. Please explain data acquisition and compilation techniques, and indicate the name of the person responsible for acquisition, compilation, and analysis of each series, and indicate the length of time-series data now available.

Answer

Again, our only series containing information of this nature is the HFWF and the length of the series and limitations upon cross-classification of the data are discussed in answer to questions 2 and 3. The extent to which such classification is done on a continuing basis is indicated in the aforementioned tables. However, a copy of our 1969 HFWF is contained in the separate package of supporting material being provided your office. As that publication, and similar ones of recent years will indicate, the USDA person responsible for professional and technical aspects of this series is Robert C. McElroy of the Economic Research Service.

As explained in answer to 4a, Dr. Don Paarlberg has overall responsibility for the Department's work in Agricultural Economics. Others in direct line responsibility between Messrs. Paarlberg and McElroy are Dr. Melvin L. Upchurch, Administrator, ERS; Dr. William C. Motes, Director, Economic Development Division (EDD), ERS; and Dr. James H. Copp, Chief Human Resources Branch, EDD-ERS.

Special questions added to the 1964 and 1965 HFWF resulted in a more detailed cross-classification and discussion of migratory farmworkers and their earnings and employment. This analysis is contained in Domestic Migratory Farmworkers, AER No. 121, USDA, a copy of which is contained in the package of supporting materials. Another such study which contains detailed information on the HFWF as a whole is contained in A Socio-Economic Profile of the 1965 Farm Wage Force, AER No. 157, USDA, a copy of which is also contained in the supporting materials package.

Question

- 4d. Please supply us with annual data (from "c") for the last 10 years, and in 1930, 1940, 1950, and 1955.

Answer

The extent of our series information on this question is contained in the tables already discussed in answer to earlier questions.

Question

- 4e. If no data are available on any one or more of the particular aspects of migratory farmworkers' earnings and employment, please indicate if such data are available for other groups within this Nation's labor force, and why no such data exists for migratory farmworkers.

Answer

There are data referred to in this question which are not available on migrants but are for some other groups within the Nation's labor force. For example, data on average hours worked per week and hourly

earnings of manufacturing workers as published by USDL, or wage rates of all hired farmworkers by specified methods of payment and average hours worked per week as published by USDA.

The "whys" of the difference in availability of data between migrants and other groups stems primarily from the same reasons that there is a lack of information on other aspects of migrancy and are essentially twofold:

1. The very nature of migratory farmwork requires that information be obtained from the highly mobile workers themselves, as most often no one else is possessed of that information. This requires specialized survey techniques which present more numerous, as well as more costly, technical and operational difficulties than is the case, for example, with the business and farm establishment surveys from which information on the more stable work groups are obtained.
2. Funds have not been available to pursue the development and continued collection of statistical data, beyond that currently being collected and published in the HFWF, nor have specific funds been appropriated for further study of the HFWF or other segments of rural manpower. This is to a considerable degree, no doubt, a consequence of the very "powerlessness" outlined in the Subcommittee's statement accompanying its request for an answer to the 33 questions.

Question

- 4f. Please supply any projections for the future regarding any available data on any one or more of the 12 aspects.

Answer

We have made no projections for the future on these aspects of migrancy.

Table 4 .--Distribution of migratory farm wageworkers, by sex and age, 1962-69

Age	Number of workers			Percentage distribution		
	Total	Male	Female	Total	Male	Female
	Thou.	Thou.	Thou.	Pct.	Pct.	Pct.
1969						
Total	257	201	55	100	100	100
14-17 yrs.	99	78	21	38	39	37
18-24	65	58	7	25	29	12
25-34	33	22	10	13	11	19
35-44	28	17	10	11	9	18
45-54	18	11	8	7	5	14
55-64	8	8	--	3	4	--
65+	7	7	--	3	3	--
1968						
Total	279	205	74	100	100	100
14-17 yrs.	88	68	20	32	33	27
18-24	67	51	16	24	25	22
25-44	40	27	14	14	13	18
35-44	36	22	14	13	11	19
45-54	23	19	4	8	9	5
55-64	9	8	1	3	4	2
65+	16	10	5	6	5	7
1967						
Total	276	204	71	100	100	100
14-17 yrs.	69	52	17	25	25	24
18-24	74	59	14	27	29	20
25-34	34	24	11	12	12	15
35-44	32	21	12	12	10	17
45-54	28	18	10	10	9	14
55-64	31	26	5	11	13	7
65+	7	4	2	3	2	3
1966						
Total	351	249	104	100	100	100
14-17 yrs.	91	66	25	26	27	24
18-24	97	66	31	28	27	30
25-34	44	29	15	12	11	14
35-44	38	27	12	11	11	12
45-54	38	25	13	11	10	12
55-64	28	23	6	8	9	6
65+	15	13	2	4	5	2

See footnote at end of table.

Table 4.--Distribution of migratory farm wageworkers, by sex and age, 1962-69
(Continued)

Age	Number of workers			Percentage distribution		
	Total	Male	Female	Total	Male	Female
	Thou.	Thou.	Thou.	Pct.	Pct.	Pct.
<u>1965</u>						
Total	466	334	132	100	100	100
14-17 yrs.	119	94	25	26	28	19
18-24	125	92	33	27	28	25
25-34	54	43	11	12	13	8
35-44	71	38	34	15	11	26
45-54	47	30	17	10	9	13
55-64	30	27	3	6	8	2
65+	19	10	9	4	3	7
<u>1964</u>						
Total	386	280	107	100	100	100
14-17 yrs.	114	71	44	30	25	41
18-24	74	55	19	19	20	18
25-44	46	37	9	12	13	8
35-44	76	51	25	20	18	23
45-54	38	33	5	10	12	5
55-64	29	27	2	7	10	2
65+	9	6	3	2	2	3
<u>1963</u>						
Total	386	318	69	100	100	100
14-17 yrs.	70	51	19	18	16	28
18-24	104	90	14	27	28	20
25-34	94	84	10	24	26	15
35-44	55	43	12	14	14	17
45-54	44	35	9	11	11	13
55-64	18	13	5	5	4	7
65+	2	2	---	1	1	---
<u>1962</u>						
Total	380	286	94	100	100	100
14-17 yrs.	61	47	14	16	16	15
18-24	91	60	30	24	21	32
25-34	80	62	17	21	22	18
35-44	54	41	13	14	14	14
45-54	42	34	8	11	12	9
55-64	39	34	5	10	12	5
65+	14	8	6	4	3	7

Numbers of workers are rounded to the nearest thousand without being adjusted to group totals.

Source: Hired Farm Working Force.

Table 5.--Distribution of migratory farm wageworkers, for persons who did less than 25 days of farm wage work, by sex and age, 1962-69

Age	Number of workers			Percentage distribution		
	Total	Male	Female	Total	Male	Female
	Thou.	Thou.	Thou.	Pct.	Pct.	Pct.
1969						
Total	85	59	26	100	100	1/
14-17 yrs.	42	30	12	50	51	---
18-24	18	16	2	22	28	---
25-34	10	6	4	12	10	---
35-44	4	1	3	5	2	---
45-54	8	3	5	9	5	---
55-64	1	1	---	1	2	---
65+	1	1	---	1	2	---
1968						
Total	103	73	29	100	100	1/
14-17 yrs.	41	35	7	40	48	---
18-24	25	21	4	24	29	---
25-34	15	6	9	15	8	---
35-44	7	5	3	7	7	---
45-54	6	4	2	6	5	---
55-64	4	2	1	4	3	---
65+	4	---	4	4	---	---
1967						
Total	81	61	20	100	100	1/
14-17 yrs.	33	23	10	41	38	---
18-24	21	21	---	26	34	---
25-34	5	3	2	6	4	---
35-44	9	7	2	11	12	---
45-54	3	1	1	3	2	---
55-64	6	5	1	8	8	---
65+	4	1	2	5	2	---
1966						
Total	76	50	25	100	100	1/
14-17 yrs.	31	22	9	40	44	---
18-24	18	14	4	23	28	---
25-34	13	5	7	17	10	---
35-44	6	2	4	8	4	---
45-54	4	2	1	5	4	---
55-64	2	2	---	2	4	---
65+	4	3	---	5	6	---

See footnote at end of table.

Table 5.--Distribution of migratory farm wageworkers, for persons who did less than 25 days of farm wagework, by sex and age, 1962-69
(Continued)

Age	Number of workers			Percentage distribution		
	Total	Male	Female	Total	Male	Female
	Thou.	Thou.	Thou.	Pct.	Pct.	Pct.
<u>1965</u>						
Total	165	111	53	100	100	100
14-17 yrs.	48	38	10	29	34	19
18-24	41	35	6	25	31	11
25-34	18	14	4	11	13	8
35-44	23	9	15	14	8	28
45-54	14	4	10	8	4	19
55-64	10	8	1	6	7	2
65+	11	3	7	7	3	13
<u>1964</u>						
Total	114	77	38	100	100	1/
14-17 yrs.	58	37	22	51	48	---
18-24	22	13	9	19	12	---
25-34	9	7	2	8	9	---
35-44	12	9	2	10	12	---
45-54	8	5	3	7	6	---
55-64	4	4	---	3	5	---
65+	2	2	---	2	3	---
<u>1963</u>						
Total	108	79	30	100	100	1/
14-17 yrs.	32	22	10	30	28	---
18-24	26	21	5	24	27	---
25-34	24	22	2	22	28	---
35-44	7	2	5	6	2	---
45-54	14	8	6	13	10	---
55-64	6	4	2	5	5	---
65+	---	---	---	---	---	---
<u>1962</u>						
Total	92	56	36	100	100	1/
14-17 yrs.	31	24	7	34	42	---
18-24	22	11	11	24	20	---
25-34	8	5	3	9	9	---
35-44	7	3	3	7	6	---
45-54	13	7	7	14	12	---
55-64	3	3	-	4	6	---
65+	8	3	5	8	5	---

Numbers of workers are rounded to the nearest thousand without being adjusted to group totals.

1/ Distribution not shown where base is less than 50,000 persons.

Source: Hired Farm Working Force.

Table 6.--Distribution of migratory farm wageworkers, for persons who did 25 days or more of farm wage work, by sex and age, 1962-69

Age	Number of workers			Percentage distribution		
	Total	Male	Female	Total	Male	Female
	Thou.	Thou.	Thou.	Pct.	Pct.	Pct.
1969						
Total	172	143	29	100	100	1/
14-17 yrs.	56	48	9	33	33	---
18-24	46	42	4	27	29	---
25-34	23	17	6	13	12	---
35-44	24	16	8	14	11	---
45-54	10	8	2	6	6	---
55-64	7	7	---	4	5	---
65+	6	6	---	3	4	---
1968						
Total	176	132	44	100	100	1/
14-17 yrs.	46	33	13	26	25	---
18-24	42	30	12	24	23	---
25-34	25	20	5	14	15	---
35-44	29	17	12	17	13	---
45-54	17	16	1	10	12	---
55-64	6	6	---	3	4	---
65+	11	10	1	6	8	---
1967						
Total	194	143	52	100	100	100
14-17 yrs.	35	29	7	18	20	13
18-24	53	38	14	27	26	28
25-34	29	21	9	15	15	17
35-44	23	14	9	12	10	18
45-54	26	17	9	13	12	17
55-64	25	22	4	13	15	7
65+	3	3	---	2	2	---
1966						
Total	275	199	79	100	100	100
14-17 yrs.	60	44	16	22	22	20
18-24	79	52	27	29	26	34
25-34	31	24	8	11	12	10
35-44	32	25	8	12	13	10
45-54	34	23	12	12	12	15
55-64	26	21	6	10	10	8
65+	11	10	2	4	5	3

See footnote at end of table.

Table 6.--Distribution of migratory farm wageworkers, for persons who did 25 days or more of farm wagework, by sex and age, 1962-69
(Continued)

Age	Number of workers			Percentage distribution		
	Total	Male	Female	Total	Male	Female
	Thou.	Thou.	Thou.	Pct.	Pct.	Pct.
<u>1965</u>						
Total	300	222	78	100	100	100
14-17 yrs.	71	56	15	23	25	18
18-24	84	57	27	28	26	34
25-34	36	29	7	12	13	9
35-44	48	29	19	16	13	24
45-54	33	26	7	11	12	9
55-64	20	19	2	7	8	3
65+	8	7	2	3	3	3
<u>1964</u>						
Total	272	203	69	100	100	100
14-17 yrs.	56	34	22	21	16	32
18-24	52	42	10	19	21	15
25-34	37	30	7	14	15	10
35-44	64	42	23	23	21	33
45-54	30	28	2	11	14	3
55-64	25	23	2	9	11	3
65+	7	4	3	3	2	4
<u>1963</u>						
Total	278	239	39	100	100	1/
14-17 yrs.	38	29	9	14	12	---
18-24	78	69	9	28	29	---
25-34	70	62	8	25	26	---
35-44	48	41	7	17	17	---
45-54	30	27	3	11	11	---
55-64	12	9	3	4	4	---
65+	2	2	---	1	1	---
<u>1962</u>						
Total	288	230	59	100	100	100
14-17 yrs.	30	23	7	10	10	12
18-24	68	49	19	24	21	33
25-34	72	58	14	25	25	25
35-44	47	38	10	17	17	16
45-54	29	27	2	10	12	3
55-64	35	30	5	12	13	8
65+	7	5	2	2	2	3

Numbers of workers are rounded to the nearest thousand without being adjusted to group totals.

1/ Distribution not shown where base is less than 50,000 persons.

Source: Hired Farm Working Force.

Table 7.--Number of migratory farm wageworkers and man-days of farm wagework, by sex, 1963-69

Year	Number of workers			Man-days of farm wagework ^{1/}		
	Total	Male	Female	Total	Male	Female
	Thou.	Thou.	Thou.	Mil.	Mil.	Mil.
	:	:	:	:	:	:
1969	257	201	55	20	18	2
1968	279	205	74	22	19	4
1967	276	204	71	24	19	5
1966	351	249	104	34	28	6
1965	466	334	132	38	30	8
1964	386	280	107	34	26	7
1963	386	318	69	32	28	3

Numbers of workers are rounded to the nearest thousand, and numbers of man-days are rounded to the nearest million without being adjusted to group totals.
^{1/} Man-day is any day in which a person receives pay for one or more hours of farmwork.

Source: Hired Farm Working Force.

Table 8.--Distribution of migratory farm wageworkers, by average daily earnings at farm wage work, age and sex, 1960-69.

Age and sex.	Number of workers	Average daily earnings from farm wage-workers												Median daily earnings																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
		Less than \$3.00						\$3.00-\$5.00							\$5.00-\$7.00		\$7.00-\$9.00		\$9.00-\$11.00		\$11.00-\$13.00																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
		Total	Pct.	Pct.	Pct.	Pct.	Pct.	Total	Pct.	Pct.	Pct.	Pct.	Pct.		Total	Pct.	Pct.	Pct.	Total	Pct.	Pct.	Total	Pct.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
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See footnotes at end of table.

Table 8.--Distribution of migratory farm wageworkers, by average daily earnings at farm work, age and sex, 1960-69. (Continued)

Age and sex.	Number of workers	Average daily earnings from farm wageworkers												Median daily earnings ¹		
		Less than \$3.00						\$3.00- and over								
		Total	Pct.	Pct.	Pct.	Pct.	Pct.	Total	Pct.	Pct.	Pct.	Pct.	Pct.			
1964																
14-19 years.....	153		16	18	22	26	9		7						\$ 6.45	
20 years and over.....	233		1	12	19	25	18		14						8.40	
Male.....	175		---	10	19	26	19		14						8.60	
Female.....	57		6	19	18	21	17		17						7.65	
1963																
14-19 years.....	114		36	21	30	9	4		---						\$ 4.35	
20 years and over.....	271		5	25	43	11	10		3						5.90	
Male.....	232		5	23	43	12	11		3						6.05	
Female ^{2/}	39		---	---	---	---	---		---						---	
1962 ^{3/}																
1961																
14-19 years.....	111		14	34	28	15	5		1						\$ 5.15	
20 years and over.....	284		11	21	26	22	12		3						6.35	
Male.....	227		8	19	24	27	13		3						7.00	
Female.....	57		26	31	35	3	5		---						4.55	
1960																
14-19 years.....	137		26	26	25	13	4		3						\$ 4.85	
20 years and over.....	272		11	18	35	16	9		3						6.15	
Male.....	213		8	16	36	19	9		3						6.40	
Female.....	59		22	24	33	8	8		---						5.25	

Numbers of workers are rounded to the nearest thousand without being adjusted to group totals.
 Note: Sex breaks for 14-19 years not shown.

^{1/} Rounded to the nearest 5 cents.

^{2/} Averages not shown where base is less than 50,000 persons.

^{3/} Data not available.

Source: Hired Farm Working Force.

Table 9.--Average number of days worked and wages earned at farm and nonfarm wagework, for migratory
wageworkers, by region and color, 1961-69.

Region and color	Farm and nonfarm						Farm						Nonfarm					
	: Number :			: Wages earned :			: Wages earned :			: Wages earned :			: Wages earned :			: Wages earned :		
	: of :	: Days :	: Per :	: Days :	: Per :	: Days :	: of :	: Days :	: Per :	: Days :	: Per :	: Days :	: of :	: Days :	: Per :	: Days :	: Per :	: Days :
	workers:	worked:	year :	day 1/:	worked:	year :	workers:	worked:	year :	day 1/:	worked:	year :	workers:	worked:	year :	day 1/:	worked:	year :
	: Thou.	No.	Dol.	Dol.	No.	Dol.	: Thou.	No.	Dol.	Dol.	No.	Dol.	: Thou.	No.	Dol.	Dol.	No.	Dol.
1969																		
Total	: 257	129	1,732	13.40	78	891		78	891	11.40	50	841		50	841	16.80		
White	: 236	126	1,754	13.90	74	851		74	851	11.50	51	902		51	902	17.70		
Negro and other races 2/	: 21	---	---	---	---	---		---	---	---	---	---		---	---	---		
South	: 70	114	1,518	13.30	73	894		73	894	12.25	40	624		40	624	15.60		
White	: 60	119	1,502	12.60	71	773		71	773	10.90	47	729		47	729	15.50		
Negro and other races 2/	: 10	---	---	---	---	---		---	---	---	---	---		---	---	---		
West.	: 102	136	1,746	12.85	94	1,095		94	1,095	11.65	42	650		42	650	15.45		
White	: 92	123	1,789	14.55	84	1,095		84	1,095	13.05	39	694		39	694	17.80		
Negro and other races 2/	: 10	---	---	---	---	---		---	---	---	---	---		---	---	---		
1968																		
Total	: 279	124	1,562	12.60	80	917		80	917	11.45	43	644		43	644	14.95		
White	: 237	119	1,514	12.70	70	782		70	782	11.15	48	731		48	731	15.20		
Negro and other races 2/	: 42	---	---	---	---	---		---	---	---	---	---		---	---	---		
South	: 115	131	1,551	11.85	92	1,036		92	1,036	11.25	39	514		39	514	13.15		
White	: 84	116	1,374	11.85	70	745		70	745	10.65	46	628		46	628	13.65		
Negro and other races 2/	: 31	---	---	---	---	---		---	---	---	---	---		---	---	---		
West	: 92	116	1,704	14.70	71	963		71	963	13.55	44	740		44	740	16.80		
White	: 83	118	1,740	14.75	69	912		69	912	13.20	49	827		49	827	16.85		
Negro and other races 2/	: 10	---	---	---	---	---		---	---	---	---	---		---	---	---		

See footnotes at end of table.

Table 9.--Average number of days worked and wages earned at farm and nonfarm work, for migratory
wageworkers, by region and color, 1961-69. (Continued)

Region and color	Farm and nonfarm					Farm					Nonfarm				
	Number of workers	Days		Wages earned		Days worked	Per		Wages earned		Days worked	Per		Wages earned	
		Thou.	No.	Dol.	Dol.		year	day 1/	year	day 1/		year	day 1/	year	day 1/
1967															
Total		276	121	1,424	11.75	85	922	10.85	36	502	13.95				
White		228	116	1,362	11.75	77	807	10.50	39	554	14.20				
Negro and other races 2/		47	---	---	---	---	---	---	---	---	---				
South		109	126	1,385	11.00	93	958	10.30	33	427	12.95				
White		75	118	1,298	11.00	80	767	9.60	37	531	14.35				
Negro and other races 2/		34	---	---	---	---	---	---	---	---	---				
West.		112	115	1,555	13.50	84	1,009	12.00	30	545	18.15				
White		103	108	1,481	13.70	75	888	11.85	33	593	17.95				
Negro and other races 2/		9	---	---	---	---	---	---	---	---	---				
1966															
Total		351	140	1,580	11.25	96	1,046	10.80	44	534	12.25				
White		271	145	1,687	11.60	99	1,106	11.15	46	581	12.60				
Negro and other races		80	123	1,215	9.85	88	841	9.50	35	374	10.80				
South		118	145	1,296	8.95	98	822	8.35	47	474	10.25				
White		73	158	1,503	9.50	101	913	9.05	57	590	10.25				
Negro and other races 2/		45	---	---	---	---	---	---	---	---	---				
West		151	147	1,920	13.05	106	1,458	13.80	41	462	11.15				
White		117	155	2,029	13.05	114	1,577	13.80	41	452	10.95				
Negro and other races 2/		34	---	---	---	---	---	---	---	---	---				

See footnotes at end of table.

Table 9 .--Average number of days worked and wages earned at farm and nonfarm wage work, for migratory wage workers, by region and color, 1961-69. (Continued)

Region and color	Farm and nonfarm						Farm						Nonfarm					
	Number			Wages earned			Wages earned			Wages earned			Wages earned			Wages earned		
	of			Per			Per			Per			Per			Per		
	workers:	worked:	year	day	1/	worked:	year	day	1/	worked:	year	day	1/	worked:	year	day	1/	worked:
	Thou.	No.	Dol.	Dol.	No.	Dol.	Dol.	No.	Dol.	Dol.	No.	Dol.	Dol.	No.	Dol.	Dol.	No.	Dol.
1965																		
Total	466	128	1,362	10.55	82	802	9.70	46	560	12.15								
White	363	132	1,471	11.10	82	816	9.90	50	655	13.15								
Negro and other races	103	116	980	8.40	83	755	9.05	33	225	6.85								
South	188	130	1,007	7.75	92	703	7.70	38	304	7.85								
White	113	135	1,089	8.00	98	75	7.70	37	331	8.85								
Negro and other races	75	123	883	7.15	82	621	7.50	41	262	6.35								
West	144	125	1,688	13.50	83	1,089	13.20	42	599	14.15								
White	124	128	1,716	13.35	81	1,050	12.90	47	666	14.15								
Negro and other races 2/	20	---	---	---	---	---	---	---	---	---								
1964																		
Total	386	131	1,240	9.45	87	782	8.95	44	458	10.50								
White	297	125	1,281	10.25	81	795	9.80	44	486	11.05								
Negro and other races	89	151	1,104	7.30	109	740	6.75	42	364	8.60								
South	178	133	1,091	8.15	100	776	7.75	33	315	9.55								
White	123	127	1,163	9.15	87	764	8.75	40	399	10.05								
Negro and other races	55	148	930	6.30	129	802	6.20	19	128	6.90								
West	102	120	1,520	12.70	87	1,029	11.80	33	491	15.35								
White	89	117	1,541	13.15	87	1,043	11.90	30	498	16.85								
Negro and other races 2/	13	---	---	---	---	---	---	---	---	---								

See footnotes at end of table.

Table 9 .--Average number of days worked and wages earned at farm and nonfarm wage-work, for migratory
wageworkers, by region and color, 1961-69. (Continued)

Region and color	Farm and nonfarm						Farm						Nonfarm					
	Number :			Wages earned :			Wages earned :			Wages earned :			Wages earned :			Wages earned :		
	: of	: Days	: Per	: Per	: Days	: Per	: Per	: Days	: Per	: Days	: Per	: Per	: Per	: Days	: Per	: Per	: Days	: Per
	workers:	worked:	year	day	1/	worked:	year	day	1/	worked:	year	day	1/	worked:	year	day	1/	worked:
	: Thou.	: No.	: Dol.	: Dol.	: No.	: Dol.	: Dol.	: No.	: Dol.	: No.	: Dol.	: Dol.	: No.	: Dol.	: No.	: Dol.	: Dol.	: No.
1963																		
Total	386	108	821	7.55	82	486	5.90	26	334	12.60								
White	264	124	1,001	8.05	91	559	6.15	33	442	13.30								
Negro and other races	122	75	432	5.75	62	329	5.25	12	103	8.35								
South	201	95	567	5.95	78	400	5.15	18	166	9.45								
White	96	121	816	6.70	93	509	5.45	28	306	10.80								
Negro and other races																		
West	105	72	339	4.70	64	301	4.70	8	38	4.70								
White	130	112	876	7.80	94	614	6.55	19	261	14.10								
Negro and other races 2/	114	115	854	7.40	100	633	6.30	16	221	14.25								
	16	---	---	---	---	---	---	---	---	---								
1962																		
Total	380	120	978	8.15	91	679	7.50	29	299	10.25								
White	303	122	1,051	8.60	92	716	7.80	30	335	11.00								
Negro and other races	77	111	691	6.25	87	534	6.15	24	157	6.45								
South	190	101	653	6.50	75	451	6.00	26	202	7.90								
White	135	103	747	7.25	77	504	6.55	26	243	9.45								
Negro and other races																		
West	55	95	424	4.45	70	322	4.60	25	102	4.00								
White	123	151	1,438	9.50	124	1,018	8.20	27	420	15.40								
Negro and other races 2/	106	157	1,525	9.70	128	1,068	8.35	29	457	15.55								
	17	---	---	---	---	---	---	---	---	---								

See footnotes at end of table.

Table 9.--Average number of days worked and wages earned at farm and nonfarm wagedwork, for migratory wagedworkers, by region and color, 1961-69. (Continued)

Region and color	Farm and nonfarm				Farm				Nonfarm			
	: Number :	: Wages earned :		: Days :	: Wages earned :		: Days :	: Wages earned :	: Wages earned :		: Days :	: Wages earned :
		: of :	: Per :		: Per :	: Per :		: Per :	: Per :	: Per :		: Per :
	: workers:	worked:	year :	day 1/:	worked:	year :	day 1/:	worked:	year :	day 1/:	worked:	year :
	: :	: :	: :	: :	: :	: :	: :	: :	: :	: :	: :	: :
	: Thou.	No.	Dol.	Dol.	No.	Dol.	Dol.	No.	Dol.	Dol.	No.	Dol.
1961												
Total	: 395	117	833	7.10	85	529	6.25	32	304	9.40		
White	: 214	119	983	8.20	90	616	6.80	29	367	12.55		
Negro and other races	: 181	114	656	5.75	78	426	5.45	36	230	6.35		
South	: 226	113	648	5.75	79	429	5.45	34	219	6.50		
White	: 69	98	630	6.45	78	470	6.00	20	160	8.15		
Negro and other races	: 157	119	657	5.50	79	411	5.20	40	246	6.10		
West	: 108	123	1,075	8.80	100	717	7.20	23	358	15.90		
White	: 90	129	1,139	8.85	103	726	7.05	26	413	15.70		
Negro and other races 2/	: 18	---	---	---	---	---	---	---	---	---		

Numbers of workers are rounded to the nearest thousand without being adjusted to group totals.

1/ Rounded to the nearest 5 cents.

2/ Averages not shown where base is less than 50,000 persons.

Source: Hired Farm Working Force.

Table 10. -- Average number of days worked and wages earned at farm and nonfarm wage-work, for migratory workers who did 25 days or more of farm wage-work, by region and color, 1961-69.

Region and Color	Number of workers	Farm and nonfarm				Farm				Nonfarm			
		Days		Wages earned		Days		Wages earned		Days		Wages earned	
		Thou.	No.	Dol.	Per day 1/	Thou.	No.	Dol.	Per day 1/	Thou.	No.	Dol.	Per day 1/
1969													
Total			172	1,937	12.75		113	1,293	11.45		39	644	16.50
White		155	147	1,954	13.30		108	1,258	11.65		39	695	17.80
Negro and other races 2/		17	---	---	---		---	---	---		---	---	---
South		48	---	---	---		---	---	---		---	---	---
White 2/		39	---	---	---		---	---	---		---	---	---
Negro and other races 2/		8	---	---	---		---	---	---		---	---	---
West		69	170	2,114	12.45		134	1,593	11.90		35	521	14.90
1968													
Total			176	1,711	11.55		120	1,385	11.55		27	326	12.05
White		144	139	1,585	11.40		110	1,222	11.10		29	362	12.50
Negro and other races 2/		33	---	---	---		---	---	---		---	---	---
South		84	148	1,649	11.15		121	1,377	11.40		26	272	10.45
White		59	123	1,319	10.70		94	1,023	10.90		28	295	10.55
Negro and other races 2/		25	---	---	---		---	---	---		---	---	---
West		50	147	1,986	13.50		125	1,684	13.45		22	301	13.70
1967													
Total			194	1,555	10.70		117	1,266	10.80		28	288	10.30
White		158	138	1,450	10.50		107	1,125	10.50		31	324	10.45
Negro and other races 2/		37	---	---	---		---	---	---		---	---	---
South		90	137	1,387	10.10		111	1,141	10.25		26	246	9.45
White		64	120	1,144	9.55		92	878	9.55		27	266	9.85
Negro and other races 2/		26	---	---	---		---	---	---		---	---	---
West		75	141	1,735	12.30		120	1,433	11.95		21	302	14.40

See footnotes at end of table.

Table 10. -- Average number of days worked and wages earned at farm and nonfarm work, for migratory workers who did 25 days or more of farm work, by region and color, 1961-69. (Continued)

Region and Color	Number of workers	Farm and nonfarm				Farm				Nonfarm			
		Days worked		Wages earned		Days worked		Wages earned		Days worked		Wages earned	
		No.	Dol.	Per year	Per day	No.	Dol.	Per year	Per day	No.	Dol.	Per year	Per day
	Thou.												
1966													
Total	275	160	1,779	11.05		121	1,307	10.80		39	472	11.90	
White	216	165	1,872	11.30		122	1,363	11.10		43	509	11.90	
Negro and other races	59	143	1,438	10.00		115	1,105	9.55		28	333	12.00	
South	100	161	1,472	9.10		114	956	8.35		47	516	10.85	
White	68	165	1,607	9.70		103	977	9.05		57	630	10.90	
Negro and other races	32												
West	115	173	2,303	13.25		136	1,891	13.80		37	412	11.20	
1965													
Total	300	149	1,474	9.85		122	1,192	9.75		27	282	10.30	
White	232	154	1,544	10.00		123	1,216	9.90		31	328	10.40	
Negro and other races	68	133	1,233	9.25		120	1,113	9.25		13	120	9.35	
South	132	151	1,192	7.85		127	981	7.70		24	211	8.70	
White	83	162	1,273	7.85		131	1,010	7.70		31	263	8.50	
Negro and other races	49												
West	96	147	1,983	12.80		118	1,583	13.40		29	300	10.40	
1964													
Total	272	155	1,581	10.15		120	1,083	9.00		35	498	14.00	
White	200	153	1,729	11.25		115	1,150	9.90		38	579	15.50	
Negro and other races	72	162	1,165	7.15		132	897	6.75		30	268	8.80	
South	127	157	1,375	8.70		136	1,063	7.75		21	312	14.95	
White	82	154	1,567	10.15		126	1,116	8.80		28	451	16.35	
Negro and other races	45												
West	72	150	1,999	13.30		119	1,423	11.90		31	576	18.75	

See footnotes at end of table.

Table 10. -- Average number of days worked and wages earned, by region and color, 1961-69. (Continued)

Region and Color	Number of workers	Farm and nonfarm				Farm				Nonfarm					
		Thou.	No.	Days worked	Per year	Days worked	Per year	Days worked	Per year	Days worked	Per year				
												Dol.	Dol.	Dol.	Dol.
1963															
Total	278	127		8.68		110		657		5.95		211		12.00	
White	212	129		9.11		110		681		6.15		231		11.90	
Negro and other races	65	120		7.28		109		582		5.30		146		12.70	
South	134	122		6.73		111		580		5.20		93		8.90	
White	77	126		7.44		113		626		5.50		118		9.20	
Negro and other races	57	116		5.78		109		519		4.75		59		8.10	
West	109	125		9.21		109		717		6.55		203		13.10	
1962															
Total	288	141		1,123		116		874		7.50		249		10.20	
White	226	142		1,202		119		936		7.85		266		11.30	
Negro and other races	62	133		839		105		649		6.20		190		6.75	
South	138	122		739		99		599		6.05		140		6.10	
White	94	125		841		105		694		6.60		147		7.40	
Negro and other races 2/	44	---		---		---		---		---		---		---	
West	115	157		1,422		132		1,085		8.20		337		13.35	
1961															
Total	296	136		902		109		677		6.25		225		8.40	
White	157	139		1,022		119		802		6.75		220		11.00	
Negro and other races	139	131		766		97		536		5.50		230		6.70	
South	172	132		760		100		543		5.45		217		6.80	
White 2/	49	---		---		---		---		---		---		---	
Negro and other races	122	135		759		97		511		5.25		248		16.50	
West	84	139		1,029		125		884		7.10		145		10.15	

Numbers of workers are rounded to the nearest thousand without being adjusted to group totals.

NOTE: Color breaks not shown for the West.

1/ Rounded to the nearest 5 cents.

2/ Averages not shown where base is less than 50,000 persons.

Source: Hired Farm Working Force.

Table 11. -- Average number of days worked and wages earned at farm and nonfarm wage-work, for migratory wage-workers, by duration of farm wage-work, 1960-69.

Duration	Farm and nonfarm				Farm				Nonfarm			
	Number	Wages earned		Days	Wages earned		Days	Per	Wages earned		Per	Days
	of	Per	Per		Per	Per			Per	Per		
	workers	worked	year	day 1/	worked	year	day 1/	worked	year	day 1/	worked	year
	Thou.	No.	Dol.	No.	Dol.	No.	Dol.	No.	Dol.	No.	Dol.	No.
1969												
Total	257	129	1,732	13.40	78	891	11.40	50	841	16.80		
Less than 25 days:	85	81	1,319	16.30	9	78	8.65	71	1,240	17.45		
25 - 74	84	93	1,477	15.90	46	494	10.75	47	982	20.90		
75 - 149 2/	46	---	---	---	---	---	---	---	---	---		
150 and over 2/	41	---	---	---	---	---	---	---	---	---		
1968												
Total	279	124	1,562	12.60	80	917	11.45	43	644	14.95		
Less than 25 days:	103	82	1,304	15.90	10	111	11.10	71	1,193	16.80		
25 - 74	85	78	783	10.05	49	433	8.85	29	349	12.05		
75 - 149 2/	39	---	---	---	---	---	---	---	---	---		
150 and over	52	257	3,171	12.35	245	2,947	12.00	12	223	18.60		
1967												
Total	276	121	1,424	11.75	85	922	10.85	36	502	13.95		
Less than 25 days:	81	64	1,109	17.30	9	95	10.55	54	1,013	18.75		
25 - 74	81	93	930	10.00	54	505	9.35	38	425	11.20		
75 - 149	56	125	1,167	9.35	98	971	9.90	26	196	7.55		
150 and over	57	240	2,824	11.75	224	2,638	11.75	15	185	12.35		
1966												
Total	351	140	1,580	11.25	96	1,046	10.80	44	534	12.25		
Less than 25 days:	76	66	863	12.95	9	107	11.50	57	756	13.15		
25 - 74	114	92	1,033	11.15	45	412	8.95	47	621	13.35		
75 - 149	73	167	1,784	10.65	102	1,096	10.75	65	688	10.50		
150 and over	87	244	2,739	11.25	235	2,643	11.25	9	96	10.60		

Table 11.--Average number of days worked and wages earned at farm and nonfarm work, for migratory
wageworkers, by duration of farm work, 1960-69. (Continued)

Duration	: Number : of : workers:	: Farm and nonfarm				: Farm				: Nonfarm			
		: Wages earned		: Wages earned		: Wages earned		: Wages earned		: Wages earned		: Wages earned	
		: Days	: Per	: Days	: Per	: Days	: Per	: Days	: Per	: Days	: Per	: Days	: Per
		: worked:	: year	: worked:	: year	: worked:	: year	: worked:	: year	: worked:	: year	: worked:	: year
		: :	: day	: :	: day	: :	: day	: :	: day	: :	: day	: :	: day
		: Thou.	: No.	: No.	: Dol.	: No.	: Dol.	: No.	: Dol.	: No.	: Dol.	: No.	: Dol.
1965													
Total	: 466	128	1,362	10.55	82	802	9.70	46	560	12.15			
Less than 25 days	: 165	90	1,160	12.80	10	95	9.00	80	1,065	13.30			
25-74	: 114	77	661	8.50	44	324	7.30	33	337	10.05			
75-149	: 92	143	1,294	9.05	104	883	8.45	39	411	10.60			
150 and over	: 94	243	2,647	10.85	235	2,561	10.90	8	86	10.25			
1964													
Total	: 386	131	1,240	9.45	87	782	8.95	44	458	10.50			
Less than 25 days	: 114	72	430	5.95	9	66	6.75	63	364	5.80			
25-74	: 102	113	1,451	12.85	44	442	10.00	69	1,009	14.65			
75-149	: 88	125	1,062	8.45	108	853	7.85	17	209	12.30			
150 and over	: 82	241	2,302	9.55	228	2,134	9.35	13	168	12.20			
1963													
Total	: 386	108	821	7.55	82	486	5.90	26	334	12.60			
Less than 25 days	: 108	60	701	11.70	10	46	4.65	50	655	13.10			
25-74	: 89	69	569	8.25	45	265	5.85	24	303	12.70			
75-149	: 111	108	763	7.00	91	550	6.00	17	212	12.60			
150 and over	: 78	222	1,361	6.15	210	1,261	6.00	11	100	9.10			
1962													
Total	: 380	120	978	8.15	91	679	7.50	29	299	10.25			
Less than 25 days	: 92	55	522	9.55	11	68	6.30	44	454	10.35			
25-74	: 133	74	483	6.55	48	265	5.50	26	218	8.45			
75-149	: 83	138	1,136	8.20	113	848	7.50	25	288	11.45			
150 and over	: 73	265	2,279	8.60	244	2,016	8.25	21	263	12.25			

See footnotes at end of table.

Table 11.—Average number of days worked and wages earned at farm and nonfarm work, for migratory
wageworkers, by duration of farm work, 1960-69. (Continued.)

Duration	Farm and nonfarm						Farm						Nonfarm					
	Number			Wages earned			Wages earned			Wages earned			Wages earned			Wages earned		
	of	Days	Per	Per	Days	Per	Per	Days	Per	Per	Days	Per	Per	Days	Per	Per	Days	Per
	workers	worked	year	day	worked	year	day	worked	year	day	worked	year	day	worked	year	day	worked	year
	Thou.	No.	Dol.	Dol.	No.	Dol.	Dol.	No.	Dol.	Dol.	No.	Dol.	Dol.	No.	Dol.	Dol.	No.	Dol.
1961																		
Total	395	117	833	7.10	85	529	6.25	32	304	9.40								
Less than 25 days	99	62	629	10.15	13	86	6.60	49	543	11.05								
25-74	131	87	596	6.85	45	273	6.00	42	323	7.80								
75-149	80	129	946	7.30	104	688	6.60	25	258	10.20								
150-249	67	191	1,162	6.10	184	1,110	6.05	7	52	7.75								
250 and over	18	---	---	---	---	---	---	---	---	---								
1960																		
Total	409	134	875	6.50	98	650	6.60	36	225	6.25								
Less than 25 days	92	58	388	6.75	13	66	5.25	45	322	7.15								
25-74	122	80	555	6.95	48	363	7.65	32	192	5.95								
75-149	84	159	1,088	6.80	102	726	7.10	57	362	6.35								
150-249	84	218	1,284	5.90	196	1,184	6.05	22	100	4.55								
250 and over	27	---	---	---	---	---	---	---	---	---								

Numbers of workers are rounded to the nearest thousand without being adjusted to group totals,

1/ Rounded to the nearest 5 cents.

2/ Averages not shown where base is less than 50,000 persons.

Source: Hired Farm Working Force.

Table 12.--Distribution of migratory farm wageworkers, by duration of farm wagework, 1960-69

Year	Number of farm wageworkers						Percentage distribution					
	Number working						Percentage working					
	Total	Less: workers	25-: than	75-: 74	150-: 149	250-: 249	Total	Less: workers	25-: than	75-: 74	150-: 149	250-: 249
	: days	: 25 : days	: 75 : days	: 150 : days	: 250 : days	: and over	: days	: 25 : days	: 75 : days	: 150 : days	: 250 : days	: and over
	Thou.	Thou.	Thou.	Thou.	Thou.	Thou.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.
1969	257	85	84	46	18	24	100	33	33	18	7	9
1968	279	103	85	39	30	23	100	37	30	14	11	8
1967	276	81	81	56	42	16	100	29	30	20	15	6
1966	351	76	114	73	57	30	100	22	32	21	16	9
1965	466	165	114	92	69	25	100	35	25	20	15	5
1964	386	114	102	88	66	16	100	30	26	23	17	4
1963	386	108	89	111	71	7	100	28	23	29	18	2
1962	380	92	133	83	40	33	100	24	35	22	10	9
1961	395	99	131	80	67	18	100	25	33	20	17	5
1960	409	92	122	84	84	27	100	22	30	21	20	7

Numbers of workers are rounded to the nearest thousand without being adjusted to group totals.

Source: Hired Farm Working Force.

Table 13. -- Average number of days worked and wages earned at farm and nonfarm wage work, for migratory wageworkers, by duration of farm wage work, and by house household heads and other household members, 1962-69.

Household Status	Farm and nonfarm						Farm						Nonfarm					
	Number of workers	Days		Wages earned		Days	Days		Wages earned		Days	Days		Wages earned		Days	Days	
		No.	Dol.	Per	year		No.	Dol.	Per	year		No.	Dol.	Per	year		No.	Dol.
1969	Thou.																	
25 days or more of FWW	172	192	1,937	12.75	113	113	113	1,293	11.45	39	644	16.50						
Household heads	61	250	3,591	14.35	181	181	2,212	12.20	68	1,378	20.25							
Other household members	111	99	1,030	10.40	75	75	789	10.50	23	241	10.45							
Less than 25 days	85	81	1,319	16.30	9	9	78	8.65	71	1,240	17.45							
Household heads 2/	19																	
Other household members	66	144	242	5.50	10	10	81	8.10	33	160	4.85							
1968																		
25 days or more of FWW	176	148	1,711	11.55	120	120	1,385	11.55	27	326	12.05							
Household heads	81	187	2,464	13.15	157	157	2,015	12.85	29	449	15.50							
Other household members	95	114	1,067	9.35	89	89	845	9.50	25	221	8.85							
Less than 25 days	103	82	1,304	15.90	10	10	111	11.10	71	1,193	16.80							
Household heads 2/	27																	
Other household members	75	43	427	9.95	10	10	109	10.90	32	317	9.90							
1967																		
25 days or more of FWW	194	145	1,555	10.70	117	117	1,266	10.80	28	288	10.30							
Household heads	78	189	2,294	12.15	154	154	1,880	12.20	35	413	11.30							
Other members	117	116	1,064	9.15	92	92	858	9.30	23	206	8.95							
Less than 25 days	81	64	1,109	17.30	9	9	95	10.55	54	1,013	18.75							
Household heads 2/	20																	
Other household members	61	40	332	8.30	9	9	74	8.20	31	257	8.30							
1966																		
25 days or more of FWW	275	160	1,779	11.05	121	121	1,307	10.80	39	472	11.90							
Household heads	123	230	2,808	12.20	171	171	2,022	11.80	59	786	13.30							
Other members	152	104	949	9.05	80	80	730	9.05	24	219	9.10							
Less than 25 days	76	66	863	12.95	9	9	107	11.50	57	756	13.15							
Household heads 2/	26																	
Other household members	50	42	359	8.55	9	9	94	9.60	33	265	8.20							

See footnotes at end of table.

Table 13 -- Average number of days worked and wages earned at farm and nonfarm wage work, for migratory wageworkers, and by duration of farm wage work, and by household heads-and-other household members, 1962-69. (Continued)

Household Status	Number of workers	Farm and nonfarm				Farm				Nonfarm			
		Wages earned		Days worked		Wages earned		Days worked		Wages earned		Days worked	
		Dol.	No.	Dol.	No.	Dol.	No.	Dol.	No.	Dol.	No.	Dol.	No.
1965													
25 days or more of FWW	300	1,474	149	9.35	122	1,192	122	9.75	27	282	27	10.30	282
Household heads	117	2,449	213	11.45	172	1,970	172	11.40	41	479	41	11.75	479
Other household members	183	948	103	7.80	90	693	90	7.70	18	155	18	8.35	155
Less than 25 days	165	1,160	90	12.80	95	95	95	9.00	80	1,065	80	13.30	1,065
Household heads	63	2,580	176	14.60	9	116	9	12.20	167	2,484	167	14.75	2,484
Other household members	103	289	37	7.60	11	81	11	7.30	26	203	26	7.75	203
1964													
25 days or more of FWW	272	1,581	155	10.15	120	1,083	120	9.00	35	498	35	14.00	498
Household heads	125	2,208	197	11.20	150	1,505	150	10.05	47	703	47	14.90	703
Other household members	147	1,048	120	8.70	95	725	95	7.65	25	323	25	12.55	323
Less than 25 days	114	430	72	5.95	9	66	9	6.75	63	304	63	5.80	304
Household heads	19	---	---	---	---	---	---	---	---	---	---	---	---
Other household members	95	369	66	5.55	10	68	10	6.45	56	301	56	5.40	301
1963													
25 days or more of FWW	278	868	127	6.80	110	657	110	5.95	17	211	17	12.00	211
Household heads	160	973	140	6.90	121	780	121	6.45	19	193	19	9.85	193
Other members	117	724	110	6.55	95	489	95	5.15	15	235	15	15.95	235
Less than 25 days	108	701	60	11.70	10	46	10	4.65	50	655	50	13.10	655
Household heads	32	---	---	---	---	---	---	---	---	---	---	---	---
Other household members	76	163	29	5.60	10	44	10	4.10	18	118	18	6.50	118
1962													
25 days or more of FWW	288	1,123	141	8.00	116	874	116	7.50	25	249	25	10.20	249
Household heads	154	1,604	173	9.25	147	1,239	147	8.45	26	365	26	13.95	365
Other members	135	575	104	5.50	81	458	81	5.60	23	117	23	5.20	117
Less than 25 days	92	522	55	9.55	11	68	11	6.30	44	454	44	10.35	454
Household heads	27	---	---	---	---	---	---	---	---	---	---	---	---
Other household members	65	175	34	5.15	11	56	11	5.05	23	119	23	5.20	119

Numbers of workers are rounded to the nearest thousand without being adjusted to group totals.

1/ Rounded to the nearest 5 cents.

2/ Averages not shown where base is less than 50,000 persons.

Source: Hired Farm Working Force.

Table 14.--Percentage of migratory farm wageworkers who did farm and nonfarm wagework, and average number of days worked and wages earned, for migratory workers who did farm wagework only, 1963-69.

Year	Farm wageworkers		Workers who did farm wagework only				
	Number of workers	Percentage who also did some nonfarm wagework	Number of workers	Days worked	Farm Wages earned		Per day ^{1/}
					Per	Per	
					year	year	
	Thou.	Pct.	Thou.	No.	Dol.	Dol.	
1969	257	43	146	99	1,175	11.85	
1968	279	43	158	91	1,018	11.20	
1967	276	38	170	138	1,494	10.80	
1966	351	48	184	123	1,322	10.70	
1965	466	46	252	104	1,046	10.05	
1964	386	44	218	109	935	8.60	
1963	386	34	256	108	484	4.50	

^{1/} Rounded to the nearest 5 cents.

Source: Hired Farm Working Force.

Table 15.--- Average number of days worked and wages earned at farm and nonfarm work, for migratory farm wageworkers who also did some nonfarm work, 1963-69

Year	Farm and nonfarm						Farm						Nonfarm					
	Number			Wages earned			Wages earned			Wages earned			Wages earned			Wages earned		
	: of	: Days	: Per	: Per	: Days	: Per	: Per	: Days	: Per	: Per	: Days	: Per	: Per	: Days	: Per	: Per	: Days	: Per
	:workers	:worked	: year	: day	:worked	: year	: day	:worked	: year	: day	:worked	: year	: day	:worked	: year	: day	:worked	: year
	: : Thou.	: : No.	: : Dol.	: : Dol.	: : No.	: : Dol.	: : Dol.	: : No.	: : Dol.	: : Dol.	: : No.	: : Dol.	: : Dol.	: : No.	: : Dol.	: : Dol.	: : No.	: : Dol.
1969	: 111	: 168	: 2,464	: 14.65	: 52	: 519	: 10.00	: 116	: 1,945	: 16.75								
1968	: 121	: 166	: 2,274	: 13.70	: 65	: 783	: 12.05	: 100	: 1,491	: 14.90								
1967	: 106	: 168	: 2,149	: 12.80	: 74	: 838	: 11.30	: 94	: 1,310	: 13.95								
1966	: 168	: 159	: 1,862	: 11.70	: 67	: 744	: 10.95	: 92	: 1,118	: 12.25								
1965	: 213	: 158	: 1,737	: 11.00	: 57	: 515	: 8.95	: 100	: 1,222	: 12.15								
1964	: 168	: 159	: 1,635	: 10.20	: 60	: 585	: 9.75	: 99	: 1,049	: 10.50								
1963	: 130	: 148	: 1,482	: 10.00	: 69	: 489	: 7.05	: 78	: 993	: 12.60								

1/ Rounded to the nearest 5 cents.

Source: Hired Farm Working Force

Table 16. -- Average number of days worked and wages earned at farm and nonfarm work, for nonmigratory farm wageworkers, by region 1961-69

Year and Region	Farm and nonfarm				Farm				Nonfarm			
	Number of		Wages earned		Days		Wages earned		Days		Wages earned	
	workers	Thou.	Per year	Per day	worked	Per year	Per day	worked	Per year	Per day	worked	Per year
	No.	Dol.	Dol.	No.	Dol.	Dol.	No.	Dol.	Dol.	No.	Dol.	Dol.
1969												
Total	2,314	1,422	12.05	78	831	10.65	39	591	15.15			
South	1,016	1,001	9.80	71	630	8.85	30	371	12.35			
West	555	1,802	14.40	86	1,231	14.30	38	570	15.00			
1968												
Total	2,640	1,323	11.50	79	825	10.45	36	497	13.80			
South	1,218	1,036	9.70	77	670	8.70	30	365	12.15			
West	659	1,702	13.60	90	1,218	13.55	34	483	14.20			
1967												
Total	2,802	1,282	10.60	84	807	9.60	36	475	13.20			
South	1,310	1,030	8.80	85	666	7.85	32	364	11.35			
West	724	1,560	13.00	88	1,119	12.70	32	440	13.75			
1966												
Total	2,412	1,235	9.75	83	685	8.20	43	550	12.90			
South	1,174	928	7.65	85	552	6.50	36	376	10.40			
West	586	1,497	11.95	84	924	11.00	41	573	13.85			
1965												
Total	2,622	1,000	8.20	86	623	7.20	36	377	10.55			
South	1,421	687	6.40	81	464	5.75	26	223	8.35			
West	530	1,555	11.25	101	1,071	10.55	37	484	13.10			
1964												
Total	2,984	919	7.85	80	551	6.90	36	368	10.05			
South	1,619	645	6.15	77	419	5.45	28	226	8.10			
West	547	1,372	11.35	78	846	10.75	43	526	12.45			

Table 16. -- Average number of days worked and wages earned at farm and nonfarm work, for nonmigratory farm wage workers, by region 1961-69 (Continued)

Year and Region	Farm and nonfarm						Farm						Nonfarm					
	Number of workers	Days worked	Wages earned			Days worked	Days worked	Wages earned			Days worked	Days worked	Days worked	Wages earned			Days worked	Days worked
			Per : year	Per : day	Per : day			Per : year	Per : day	Per : day				Per : year	Per : day	Per : day		
	Thou.	No.	Dol.	Dol.	Dol.	No.	No.	Dol.	Dol.	Dol.	No.	No.	No.	Dol.	Dol.	Dol.	No.	No.
1963																		
Total	3,212	107	818	7.65		75		483	6.40		31			334	10.55			
South	1,788	94	570	6.05		72		383	5.35		23			187	8.20			
West	559	119	1,230	10.35		75		688	9.15		43			542	12.55			
1962																		
Total	3,242	115	886	7.75		80		533	6.70		35			353	10.15			
South	1,781	99	590	6.00		74		412	5.60		25			178	7.20			
West	528	137	1,391	10.15		84		791	9.40		53			600	11.35			
1961																		
Total	3,094	107	782	7.30		76		498	6.55		31			284	9.30			
South	1,776	88	498	5.65		64		321	5.05		24			177	7.25			
West	514	135	1,346	9.95		104		1,016	9.75		31			330	10.55			

1/ Rounded to the nearest 5 cents.

Source: Hired Farm Working Force.

III. SOME POSSIBLE CAUSES OF FARMWORKER ECONOMIC AND MANPOWER PROBLEMSQuestion

5. The Subcommittee held hearings on May 21 and 22, 1969, on the Border Commuter Labor Problem. The record documents that persons regularly cross from Mexico into the U.S., either as holders of so-called green cards, visitors permits, or birth and baptismal certificates. Other cross illegally. In the opinion of your Department, does this border situation contribute to the redundancy of the farm labor supply, and/or depress living and working conditions along border areas, and/or increase the need for United States residents along the border to migrate North in search of better paying jobs, and/or cause a depressing impact on the entire National farm labor, rural, and/or urban economy? If so, please explain why in detail, and please submit all reports, analyses, and documentation in support of your position. If not, please submit documented evidence of why the border situation is not a source of the economic and manpower problems outlined above.

Answer

It is our opinion that there is a redundancy of farm labor along the border stemming in part from the causes enumerated above which compound two other important forces which have been operating in the agriculture of the Lower Rio Grande Valley and other Border Areas to reduce employment opportunities. A shifting agricultural pattern has been placing increased emphasis on cash grain and livestock enterprises which have relatively low labor requirements. At the same time, technological processes have been serving to reduce the labor input in all enterprises including the most labor intensive. For example, changes in the Lower Rio Grande Valley, including substantial decreases in vegetable and cotton acreages, have resulted in an estimated 40 to 60 percent reduction in farm employment opportunities over the past decade.

Moreover, while agricultural employment opportunities in the Border Areas have been declining, the population -- with its above average male labor replacement ratios, as shown in USDA, Statistical Bulletin No. 378 -- has been increasing and all areas have experienced net out-migration. At the same time, a study covering the years 1965-66 found that a pool of 100,000 or more seasonal workers existed in South Texas along with established patterns of migration to more than half of the States during the spring and summer months to do migratory farmwork. A copy of the study -- The Farm Labor Situation in Selected States, AER 110 -- is enclosed in the package of supporting materials being forwarded the Subcommittee.

We have not studied the impact of these facets on living and working conditions along the border or their relevance to program recommendations for economic and hence job development. The reasons for this are essentially twofold: (1) the Economic Development Administration of the Department of Commerce has been involved in such studies and, in that connection, we have provided them materials relevant to agricultural aspects which expand on points discussed above; and (2) the matter of foreign workers is governed by the Immigration and Nationality Act, Public Law 414, which is administered by the Immigration Service of the Department of Justice with the participation of the Department of Labor (USDL). Accordingly, USDL is providing you a more detailed answer to this question.

The following topics are treated collectively in the general answer below:

Farm Labor Market Information: (questions 6-17);

Barriers to Job Mobility: (questions 18-24);

Worker and Employer Attitudes: (questions 25-26)

Answer

The responsibility for recruiting, placing, and training of farmworkers and the associated facets of labor market information and mobility are the primary responsibility of the U.S. Department of Labor (USDL), just as most programs pertaining to aspects of migrant health are appropriately administered by the Department of Health, Education and Welfare (HEW).

The termination of the World War II agreement with Mexico regarding employment of Mexican nationals in domestic farm wage jobs on December 31, 1947, marked the end of the U.S. Department of Agriculture's primary responsibility for foreign labor importation programs. Subsequently, recruitment has been handled by the Bureau of Employment Security, first as part of the Federal Security Agency, and later in the U.S. Department of Labor. Labor's functions in this area were enhanced by passage of the Manpower Development and Training Act in 1962, which represented the chief legislative step toward formulation of a domestic national manpower policy by establishing a nationwide program of occupational training for unemployed and underemployed workers. The capability for matching workers with jobs was increased by a new program called for by the 1968 amendments to the Manpower Development and Training Act. These amendments essentially strengthened the system whereby the Secretary

of Labor could establish programs on a national, State, and local basis for matching employer worker requirements with individuals seeking employment (Termination of the Bracero Program, AER No. 77, USDA, and the 1969 Manpower Report of the President).

However, the Department of Agriculture has both farmers and farmworkers among its constituency and we recognize a deep and traditional, as well as legal, responsibility to farmworkers. Continuing programs of the Department pertaining specifically to hired farmworkers include rural housing loans for farmworkers, wage regulations for workers in sugar crops, and research.

Two types of loans are provided by the Department's Farmers Home Administration (FHA). Individual housing loans are available to migrant workers who desire to establish a permanent residence for their families. This program also includes a self-help provision for low-income rural families. To finance low-rent housing for domestic farm laborers, loans are available to individuals and grants to State and local political subdivision housing authorities. Publications are enclosed in the package of supporting materials which describe these loans in greater detail.

Under the Sugar Act of 1948, the Secretary of Agriculture is responsible for establishing fair and reasonable rates for persons employed in the production of sugar cane and sugarbeets.

Annual average hourly earnings in 1969 for workers on sugarcane farms were \$1.60 in Louisiana, \$1.96 in Florida, and \$1.82 on sugarbeet farms throughout the nation. 2/ The minimum wage for farmwork established by the Fair Labor Standards Act as amended in 1966 was \$1.30 per hour.

The composite wage rate reported by the Statistical Reporting Service, USDA, for all farm wageworkers during 1969 averaged \$1.33 per hour.

The information provided by this Department in response to the Subcommittee's questions which have preceded this one and that which follows in response to its other questions, along with the package of supporting materials, will indicate the extent and magnitude of our research effort on farm labor. While we have previously indicated some limitations on this work, we also believe some of it has been and will continue to be instrumental in the inception of policies and programs which contribute to the well-being of farm wageworkers.

Thus, while Labor is rightfully answering most of these questions (6-26), the following is provided in accordance with the Subcommittee's request for all relevant available information and in the belief that it may complement Labor's response and be helpful to you.

2/ Sugar Division, ASCS, USDA, annual publication in process.

Some Special Studies

An analysis of the socio-economic profile of the 1965 farm wage force (AER No. 157, USDA) showed the median family income was \$2,900, less than half the family income of all persons in the United States. The average farmworker was younger, less likely to be white, and more likely to live on a farm in the South than the average American worker.

Results of a study of the manpower implications of trends in the tobacco industry indicate the high labor-reducing potential of mechanical tobacco harvesters is inhibited by lack of economic feasibility under the present tobacco program. Thus, while not immediately imminent, full mechanization would displace at least 150,000 workers from producing flue-cured tobacco. Little is known about the characteristics of the hired worker segment, but the average age (47 years) and education level (7.6 years) of the commercial farmer group indicated a disadvantage in competing for nonfarm employment, which is increasing in the area. Specific skills and educational requirements of the expanding industrial jobs are not known (Potential Mechanization in the Flue-cured Tobacco Industry -- With Emphasis on Human Resource Adjustment, AER No. 169, USDA).

A study of Workers in Agribusiness (publication in process) in New York indicates most agribusiness workers have farm backgrounds, and work more than 40 hours per week. As a group, they are generally satisfied with their jobs, but satisfaction levels are lower among

the younger than the older workers. Most mobility is from one section of agribusiness to another, with mobility from production or supply to processing being the most profitable in terms of wages. The majority of agribusiness firms are small, and individually or family owned. Larger corporate firms are most prevalent in processing, but even these are small in number of employees. Few firms (9 percent) have organized recruitment programs, but most have some preferred procedures; almost all express preference for employees with farm background, regardless of skill level of job. Newspaper advertising and informal personal contacts are the principle ways of recruiting. Experiences of the processing firms, which are larger generally than production and supply firms, indicate a changing manpower situation with a consequence that agribusiness firms must increasingly compete with other industries in the general labor market.

Thus, improved labor management skills and increased costs per unit of labor are indicated as agribusiness firms increase efforts to obtain and keep an adequate supply of workers.

A cooperative study of Changes in the Spanish Speaking Labor Force of Saginaw County, Michigan (Mississippi Report 22, 1968) encompassing job mobility of two distinct groups of Spanish-speaking persons: (1) urban residents of the city of Saginaw, mostly from Texas or other Southwestern States and more or less permanently

attached to the Michigan area, and (2) rural residents, most of whom were recent arrivals in the county and maintaining ties with their communities of origin in the Southwest.

Most of the adults claimed to have had but little difficulty in adjusting to the Michigan environment, although they spoke little or no English on arrival. They appeared to have encountered no major hurdles in looking for unskilled or semiskilled work or in the readiness of employers to hire them. However, lack of facility in the use of English along with the fact that the majority of the adults -- particularly the older adults -- had little or no formal education or training, which made it difficult for them to move into skilled jobs.

A study of Low-Income Families in the Spanish-Surname Population of the Southwest (AER No. 112, USDA) gives some further insights into the mobility pattern of agricultural workers in this group. It shows the mobility pattern of these workers -- especially those in seasonal farmwork -- is often that of temporary, relatively short-time movement to job opportunities, and return to a home base at the end of the season. Some farm laborers may move considerable distance to these jobs. Spanish-surname people are more likely to make these temporary moves for farmwork than the Anglos in the Southwest area. The dominant stream of migration of a permanent nature, however, is from rural to urban areas.

Question

27. What efforts have been made to describe the exact nature of the demand for migratory farmworkers (for example, in terms of requisite skills and abilities, job components, etc.)?

Answer

The U.S. Department of Labor has been more deeply involved in this aspect of migrancy in connection with its annual worker plan. The Department of Agriculture has the following relevant activities which, we believe, will complement rather than duplicate Labor's discussion:

- (1) The Hired Farm Working Force series in which the number of persons 14 years of age and over who did migratory farmwork during the year, daily and annual wages, and other socio-economic information as presented in the previous tables (1-16) and the discussion pertaining thereto, are obtained and published annually.
- (2) Changes in Farm Production and Efficiency (published annually in Statistical Bulletin No. 233, ERS, USDA) contains the series of man-hours of labor required in farm production. In connection with this series, periodic estimates on man-hours of labor required by specific types of crops and livestock enterprises are published by State, region, and for the United States.
- (3) Crop Production, published by the Crop Reporting Board of the Statistical Reporting Service, reports planting intentions by farmers for most crops 60 to 90 days prior to planting on a State basis. In this Federal-State cooperative activity estimates of acres actually planted and acres harvested are available in some states on a county basis, depending upon the degree of interest and participation of the particular State.

The latter two activities may be used in conjunction with other information (such as proportions of work done by hired and family labor in the area, extent of mechanization and other technology, etc.) by farm placement service officers or others attempting to estimate the amount of labor needed in a specific location.

Question

27a. Please supply data which reflects as accurately as possible the current nature of the demand for migratory farmworkers and the behavior of that demand over the preceding 10 years, and in 1930, 1940, 1950, and 1955, as well as demand projected into the future

Answer

Table 17 (below) contains the total number of persons who have done farm wagework, the number of them who were domestic migratory farm wageworkers and the number of foreign nationals for those years in which data are available from 1949 through 1969. These data show, as stated in response to question 1, that the number of migrants have been declining since 1965.

Table 17.--Total number of domestic farm wageworkers, number of domestic migrants and foreign national farm wageworkers, 1949-69

Year	Domestic farm wageworkers		Foreign nationals
	Total	Migrants	
	Thou.	Thou.	
1969	2,571	257	16
1968	2,919	279	13
1967	3,078	276	24
1966	2,763	351	24
1965	3,128	466	36
1964	3,370	386	200
1963	3,597	386	209
1962	3,622	380	217
1961	3,488	395	310
1960	3,693	409	335
1959	3,577	477	455
---	---	---	---
1957	3,962	427	452
1956	3,575	427	460
1954	3,009	365	321
1952	2,980	352	210
1949	4,140	422	113

While we have made no study and projections of the specific nature of the demand for migratory farmworkers only, we estimate that the total demand for all farmwork (farm family and hired workers) will continue to decline during this decade. 3/

We have appraised the flue-cured tobacco industry and foresee the potential of mechanization substantially reducing labor needs in that crop (AER No. 169, USDA).

Also, we have participated in a joint Land Grant College-USDL-USDA effort to appraise the demand and other manpower aspects of technological change in the fruit and vegetable industry.

Using data prepared by a number of leading engineers, economists, and horticulturalists, the USDA-ERS developed detailed estimates of labor demand to 1975. Total man-hours of labor on vegetables are projected to decline 27 percent from 1964-68 to 1975. 4/ But, the harvest labor (that more commonly done by migrants) is projected to decline by 40 percent. For fruit production, total labor input projections are down only 3 percent with harvest labor declining some 8 percent by 1975. This reflects an expected increase in fruit acreage and production of 19 and 27 percent, respectively. Thus, migrants who follow fruit harvesting will likely be less affected by new technology than those working vegetable crops.

3/ Farm Labor In A Changing Agriculture, Part 4, Senate Hearings 90th Congress, First Session, 1968. (This report will be forwarded in the package of supporting materials.)

4/ Economic Implications of Future Horticultural and Engineering Technology in the Production of Fruits and Vegetables, by Velmar W. Davis, ERS, USDA.

To the extent that migrants work both fruits and vegetables, there may be some further discontinuity of employment as some crops in the normal work sequence become mechanized.

Question

- 27b. Please include data to describe the source of the demand (i.e., including but not limited to employer by size, crops involved, geographic locations, degree of nonagricultural interests, etc.)

Answer

The sources of data provided by this Department are as discussed in answer to question 27a and copies of the footnoted papers are contained in the package of supporting materials.

Question

- 27c. If such information is not available, specifically explain why this is so.

Answer

See response to questions 27, 27a, and 27b.

Question

28. What has been the behavior of labor productivity (especially related to the introduction of technological advances) in agriculture (and specifically in those agricultural sectors using migratory farmworkers) over the past 10 years, and in 1930, 1940, 1950, and 1955? What will be future behavior? What has been, and what will the behavior of migratory farmworker earnings over these time periods? Please supply all data relevant to these determinations. If no such data are available, please explain why not.

Answer

While we have not specifically studied the productivity of migrants, or for that matter the increased output of farm labor in general due solely to labor's increased skills and efforts, total

farm labor productivity has increased drastically since World War II. The substitution of capital for labor in the form of power equipment and machinery along with such yield-increasing technology as hybrid seed, new forms of fertilizer, and chemical pesticides has materially increased production per hour of labor in crop farming. From 1940-44 to 1950-54, total crop production per hour rose at the rate of 5.0 percent per year, 6.5 percent per year in the 1950's and a preliminary 5.9 percent per year for the 1955-59 to 1964-68 period (table 18). From 1940 to date the greatest gain in output per hour has been in feed grains. Large modern tractors, self-propelled combines, minimum tillage practices, and high yielding hybrids have enabled labor productivity, in this sense, to increase at an annual rate of 8 to 10 percent since 1940.

However, gains in labor productivity have not been equally distributed over all crops. Those most resistant to mechanization--vegetables, fruits and nuts, and tobacco -- have achieved gains of only 2 to 4 percent a year since 1940-44. These crops are, of course, the ones that provide most of the employment for migrants, primarily because they have been difficult to mechanize and migrants and others employed on them have been doing, essentially, the same jobs of hand weeding, hand hoeing, and hand harvesting over the years. Thus, any efforts to appraise the productivity of migrants or any others on these crops without taking into consideration the detailed aspects of what proportions of productivity was contributed

Table 18.--Changes in farm labor productivity, United States, selected periods, 1910-1968

Farm output per man-hour	Annual rate of change						Total percent- age change 1910-14 to 1964-68 ^{1/}
	1910-14 to 1920-24	1920-24 to 1930-34	1930-34 to 1940-44	1940-44 to 1950-54	1950-54 to 1960-64	1955-59 to 1964-68	
Total ^{2/}	0.8	0.9	3.6	5.2	6.8	6.7	588
All crops-----	1.2	.2	3.8	5.0	6.5	6.3	553
Feed grains----	1.4	0	4.3	8.1	10.6	9.6	1301
Hays & forage--	.3	.6	3.5	6.3	4.2	6.6	437
Food grains----	1.3	2.9	4.7	5.8	8.0	5.1	907
Vegetables----	.4	.6	1.7	4.2	4.2	2.5	214
Fruits & nuts--	1.7	1.1	2.6	2.5	2.1	3.2	211
Sugar crops--	.2	1.2	1.9	6.0	6.8	4.5	418
Cotton-----	.9	1.7	3.4	5.4	8.7	9.8	773
Tobacco-----	.2	.3	.9	1.9	3.2	2.4	82
Oil crops----	.5	.3	5.6	9.7	6.0	3.8	710
All productive livestock ^{3/} ----	.3	^{4/}	1.7	3.2	5.9	6.8	284
Meat animals----	.6	.3	.8	.9	3.3	4.5	119
Milk cows-----	.5	.2	1.4	3.5	6.4	7.3	332
Poultry-----	.2	.3	1.8	4.3	10.3	9.8	609

^{1/} The 1964-68 farm output per man-hour numbers are preliminary. They are based on man-hour requirements that are modified extrapolations of trends in labor inputs from the previous period. These man-hour inputs have not yet been modified to account for adoption of new technology during 1964-68. For example, output per hour of vegetables is grossly understated because of the adoption of such labor-saving technology as the tomato and snapbean harvesters.

^{2/} Man-hours in ratio include labor used for crops, livestock, and overhead.

^{3/} Excludes horses and mules.

^{4/} Less than .05 percent.

by capital thru technological innovation and adoptions in relationship to that resulting from the workers' efforts would give a distorted picture. Our needs in this area have not required such detailed examination. We do, however, continue to appraise the gains in labor productivity in the aggregate sense as indicated above.

In this regard, the gain in labor productivity on vegetables has been accomplished largely by mechanization of the processing portion of those crops. The rate of 2.5 percent per year from 1955-59 to 1964-68, is probably low because the labor used per acre estimates since 1964 are extrapolations from a previous period. Thus, they do not reflect the productivity gains associated with the rapid adoption of the tomato and snapbean harvesters since 1964. It is unlikely, however, that revised input data would cause the annual rate of change in labor productivity to exceed 5 percent.

The slow annual gain of 2 to 3 percent for fruits and nuts clearly indicates the difficulty in reducing the labor input and boosting productivity of a group of crops having tender skins and flesh that are produced on mechanization-resistant plants and trees. Mechanization of tree fruits has been very slow, and most gains thus far have occurred in the preharvest stage and postharvest handling. Harvest, the heavy labor-using operation, is still a hand operation -- only about 1 percent of production was machine harvested in 1968. This will commence to change within the next

few years, as the grape and citrus harvest becomes somewhat mechanized. Yet, we estimate that only 17 percent of fruits and nuts will be machine harvested by 1975, and hence the demand for seasonal labor in these crops will continue accordingly.

Productivity of labor on sugar crops from 1940-44 to date have about kept pace with the average of all crops. The mechanization of the harvest of sugarcane in Louisiana was nearly complete by 1950, but the Florida crop still remains predominantly hand harvested. Sugar beets became largely machine harvested during the mid-fifties. Progress in mechanical blocking and thinning of sugarbeets, which moved much slower, has accelerated and is eliminating some of the work traditionally done by migrants. Future gains in labor productivity in sugar crops will likely not increase above 5 percent annually.

Question

29. What has been the relationship between the productivity of migratory farmworkers and their level of earnings in agriculture compared with productivity and earnings of nonmigratory agricultural and non-agricultural workers over the preceeding 10 years, and in 1930, 1940, 1950, and 1955? What will be the relationships in the future? Please supply all data bearing on these questions. If no data are available, please explain why not.

Answer

We have not made such detailed studies, as indicated in answer to question 28, as they are not required in our method of measuring the changing production efficiency in farming.

Question

30. Please indicate the amount of money (direct and indirect - sources and recipients) expended annually to improve agricultural technology - currently and over the preceeding 10 years. What are projected expenditures for future years.

Answer

Annual expenditures to "improve agricultural technology"

include:

- (1) Expenditures by USDA and the Federal funds allocated to State Agricultural Experiment Stations.
- (2) State appropriations for research at State Agricultural Experiment Stations.
- (3) Private industry expenditures.

In each case, the estimates contained in table 19 correspond only to that portion of research which is designed to increase agricultural production capacity. That is, it does not include, for example, expenditures on research designed to improve the functioning of food distribution programs or that designed to benefit consumers generally.

Question

31. Please indicate amount of money spent (direct and indirect - sources and recipients) to reduce output of agriculture, and/or support agricultural prices - currently and annually over the preceeding 10 years. What will be the extent and nature of future expenditures?

Answer

The USDA has two broad sets of programs which "reduce output of agriculture and/or support agricultural prices." One is the price support and diversion program administered by Agricultural Stabilization and Conservation Service (ASCS) and the other is the "Section 32" program administered by Consumer and Marketing Service (C&MS).

Table 19.--Expenditures on Research to Improve Agricultural Production Technology

(Thousands)

Agency	1961*	1962*	1963*	1964*	1965*	1966	1967	1968	1969 Actual	1970 Estimate	1971 Estimate	LRS 1977**
ARS	45,200	49,000	51,400	69,200	76,900	79,710	84,398	82,433	84,306	90,394	91,801	148,000
ERS	1,793	1,943	2,036	2,780	3,085	3,158	3,829	3,066	2,866	3,110	3,162	5,750
FS	867	940	985	1,326	1,473	1,527	1,543	2,453	2,197	2,483	2,483	5,100
SRS	-	-	-	-	-	-	-	38	22	25	61	120
CSRS	18,130	19,650	20,600	27,700	30,750	31,727	31,157	32,438	35,614	35,644	37,692	96,800
Total-USDA	65,990	71,533	75,023	101,006	112,208	116,162	120,927	120,428	125,005	131,656	135,199	255,770
States-other	82,400	89,400	93,700	126,300	140,250	145,300	151,200	150,500	156,478	168,968	182,613	302,000
Industry	146,000	158,000	166,000	228,000	247,000	257,000	263,000	265,000	277,000	292,000	299,000	555,000
Grand Total	294,390	318,933	334,723	455,306	499,458	518,462	540,127	536,928	558,483	592,624	616,817	1,123,770

* Pro rata estimates only, since CRIS inventory not available prior to 1966

* Based on 1971 dollars per SWY multiplied by 1977 targets of "A National Program of Agricultural Research"

† Industry estimate for 1965 only with all other years for industry same ratio to USDA as in 1965

Price Support and Diversion Program

The ASCS is currently administering price support programs (purchases, loans and/or payments) for the following commodities: corn; grain sorghum; barley; oats; wheat; rice; rye; dry edible beans; castor beans and oil; flaxseed and linseed oil; soybeans, cottonseed and vegetable oils; honey; upland cotton; extra long staple cotton; dairy products; peanuts; tung nuts and oil; rosin; tobacco; wool and mohair; and sugar beets and sugarcane. In addition, diversion payments may be earned under the Cropland Adjustment Program, Cropland Conversion Program, Conservation Reserve Program, and annual commodity diversion programs.

Identification of specific recipients, or beneficiaries, of the programs listed above is not available. Only an "eligible producer" can obtain price support or earn payments. In general, an eligible producer may be any person or other legal entity producing the commodity of the crop being supported as owner, landlord, tenant, or sharecropper.

A producer's eligibility for price support and/or diversion payments in some cases is conditioned by his participation in, singly or in combination, acreage allotment, marketing quota and acreage diversion programs. For other commodities, a producer may have no specific eligibility requirements for price support except providing adequate storage facilities for the commodity and the commodity meeting certain quality requirements. However, because support for manufacturing milk and butterfat is indirect (through purchases of dairy products) there are no eligibility requirements for dairy farmers.

The effects of price support and supply adjustment programs, however, go far beyond the benefits earned directly by program participants. The extent to which commodity prices are strengthened also benefits nonparticipating producers of those commodities. Likewise, producers of other agricultural products also may derive benefits from commodity programs (for instance, feed grain prices directly affect the livestock and poultry industry). Too, the extent to which these programs strengthen farm income also directly influences farmers' ability to employ labor. In this broad context, most of agriculture is either directly or indirectly affected by programs administered by ASCS.

To project the nature and extent of future expenditures on these programs would be purely conjecture. Legislative authority for current programs of some major crops expires with 1970 crops. Legislation for still other commodities could be changed drastically in some future year. Therefore, the type and nature of future programs, and the expenditures associated with them, will be largely determined by the legislative framework provided by the Congress.

The following table shows expenditures associated with efforts "to reduce output of agriculture, and/or support agricultural prices" during fiscal years 1962-71.

Table 20

AGRICULTURAL STABILIZATION AND CONSERVATION SERVICE

Expenditures to Reduce Output of Agriculture and/or Support Prices
(millions of dollars)

	1962	1963	1964	1965	1966	1967	1968	1969	1970 ^{1/} Estimated	1971 ^{1/} Estimated
ASCS Programs:										
<u>Payments to Farmers:</u>										
Cropland Adjustment Program ...	--	--	--	--	5.6	53.6	83.7	79.5	78.1	78.7
Cropland Conversion Program ...	--	4.0	7.1	9.7	1.9	1.7	3.1	3.0	2.3	.2
Conservation Reserve Program ...	332.7	305.4	289.9	193.7	151.0	140.7	121.8	106.7	39.5	.9
Sugar Act Program	78.0	76.9	87.1	92.1	87.7	81.7	83.8	87.1	93.1	88.0
National Wool Act	59.5	56.9	67.3	20.2	36.1	32.6	69.4	65.1	54.9	62.0
Subtotal, ASCS	470.2	443.2	451.4	315.7	282.3	310.3	361.8	341.4	267.9	229.8
Related Agribusiness & all Other										
Administrative Costs of above										
programs	13.5	9.9	6.7	6.7	10.2	9.8	6.4	4.4	4.7	4.0
Commodity Credit Corporation										
Payments to farmers ^{2/}	368.1	945.9	1,222.4	1,279.8	1,486.5	2,160.2	1,687.4	2,190.5	2,133.9	2,499.2
Special Milk Program	91.7	-1.6	-4	-1	--	--	--	--	--	--
Wheat Certificate Program:										
Issued to farmers	--	--	--	409.8	470.7	651.8	726.4	746.5	784.5	827.0
Sales to processors	--	--	--	-516.5	-630.7	-376.1	-384.3	-387.5	-387.0	-397.5
Net receipts (-) or outlay	--	--	--	-106.7	-160.0	275.7	342.1	359.0	397.5	429.5
Related Agribusiness and all other	979.7	1,923.3	1,597.8	1,272.5	17.8	-521.3	1,166.6	1,568.2	1,059.9	788.1
Foreign Assistance Programs:										
PL 480										
Title I	1,483.8	1,563.2	1,475.8	1,493.6	1,371.3	1,070.3	859.7	610.3	613.6	501.2
Title II	463.7	476.5	573.5	358.2	413.2	381.4	344.6	364.2	357.1	351.0
Total PL 480	1,947.5	2,039.7	2,049.3	1,851.8	1,784.5	1,451.7	1,204.3	974.5	970.7	852.2
Barter materials for supplemental										
stockpile	193.3	99.7	37.7	40.6	25.8	32.5	25.9	1.7	.2	.1
International Wheat Agreement	90.1	74.2	125.8	34.8	10.2	-7.5	--	--	--	--
Total Foreign Assistance	2,230.9	2,213.6	2,212.8	1,927.2	1,820.5	1,476.7	1,230.2	976.2	970.9	852.3
GRAND TOTAL	4,654.1	5,534.3	5,490.7	4,695.1	3,455.3	3,711.4	4,796.5	5,439.7	4,834.8	4,802.9

^{1/} Based on 1971 Budget Estimates.^{2/} Includes feed grain, wheat and cotton price support and acreage diversion payments.

NOTE: All funds for ASCS programs are appropriated. CCC and PL 480, Title I, include appropriations, receipts from sales and repayments.

ASCS:BU:BPS 3/20/70

Explanation of Section 32

Funds are appropriated in an amount equal to 30 percent of the gross receipts from duties collected under the customs laws during the year. These funds are maintained in a separate fund and shall be used by the Secretary of Agriculture only to (1) encourage the export of agricultural commodities and products thereof by the payment of benefits in connection with the export thereof or of indemnities for losses incurred in connection with such exportation or by payments to producers in connection with the production of that part of any agricultural commodity required for domestic consumption; (2) encourage the domestic consumption of such commodities or products by diverting them, by the payments of benefits or indemnities or by other means, from the normal channel of trade and commerce or by increasing their utilization through benefits, indemnities, donations or by other means, among persons in low-income groups as determined by the Secretary of Agriculture, and (3) reestablish farmers' purchasing power by making payments in connection with the normal production of any agricultural commodity for domestic consumption.

Estimated obligations under Section 32 for 1970-71 and a statement pertaining to future years follows:

Fiscal Years 1970-1971

Section 32 funds budgeted for commodities, including export payments.
 FY 1970 - \$351,738,996 FY 1971 - \$248,874,000

Future Years

The amount of funds which will be used in future years for perishables and other surplus removal programs will depend upon market situations which develop as peak marketing seasons approach.

Preceding Years

Table 21, which follows, contains USDA obligations for removal of surplus agricultural commodities (section 32) by commodity groups for fiscal years 1936-69.

Table 21

UNITED STATES DEPARTMENT OF AGRICULTURE
Consumer and Marketing ServiceRemoval of Surplus Agricultural Commodities
(Section 32)

Obligations by Commodity Groups - Fiscal Years 1936-1969

Fiscal Year	Cotton	Dairy	Eggs and Poultry	Fruits	Grain	Livestock Products	Peanuts & Products	Tobacco	Tree Nuts	Vegetables	Miscellaneous	Total
1936	\$4,059,978	---	\$198,604	\$2,439,281	\$5,764,307	---	\$306,550	\$1,090,213	\$1,289,188	\$1,707,599	\$40,462	\$16,896,182
1937	6,836	\$368,386	2,136,766	6,290,222	653,290	\$107,229	---	1,720,637	1,544,360	1,535,084	1,238,177	15,451,587
1938	926,937	5,876,612	1,726,868	17,330,045	13,812,962	---	2,301,818	1,555,838	1,611,725	7,942,674	1,165,844	54,251,221
1939	1,894,631	38,995,906	570,549	11,851,799	18,226,037	---	400,897	1,232,127	1,003,633	3,683,463	1,197,604	79,845,708
1940	49,472,402	17,884,220	15,489,520	25,557,097	44,302,278	25,826,388	699,353	---	1,408,633	5,063,463	893,117	185,209,471
1941	54,008,941	14,855,720	14,753,283	33,000,818	22,479,039	30,719,343	8,125,877	---	669,197	24,724,596	8,996,194	212,333,028
1942	12,230,044	29,379,618	25,977,947	29,967,124	29,155,316	12,721,175	662,200	367,361	1,930,902	23,338,445	3,745,272	88,739,272
1943	6,475,499	10,382,973	11,895,860	11,839,079	19,137,498	440,000	1,049,970	1,694,000	579,881	21,988,083	676,453	115,171,266
1944	1,319,636	3,610,624	5,883,402	1,242,780	1,314,938	367,194	---	2,708,675	---	---	239,269	23,090,142
1945	273,766	---	3,072,033	3,069,212	4,154,712	---	---	---	---	3,143,083	---	13,732,600
1946	18,596,055	---	---	---	3,751,462	---	---	---	---	7,948,508	---	30,286,835
1947	39,436,392	---	10,697,769	34,062	---	---	---	---	---	26,516,422	---	71,706,645
1948	2,422,582	---	19,713,194	19,543,631	---	---	---	8,546,500	1,133,820	21,099,758	822,138	73,341,643
1949	235,171	1,823,100	13,957,261	10,138,591	4,191,686	---	10,167,023	---	---	11,096,628	1,715,930	53,223,610
1950	20,157	15,562,176	13,261,693	27,768,330	2,854,945	---	4,559,192	---	3,928,890	5,254,214	305,538	73,498,137
1951	289	---	5,107,432	22,806,146	7,101,747	---	876,074	---	---	207,263	---	37,645,825
1952	---	4,174,675	3,697,872	24,125,990	---	12,166,453	---	---	3,390,489	10,720	---	31,132,481
1953	935,760	21,775,766	26,602,411	13,556,579	---	1,383,188	---	---	1,038,393	---	3,119,961	68,471,058
1954	10,575,560	87,119,097	---	9,387,879	3,383,566	83,311,404	---	---	401,741	3,015,520	666,696	198,481,463
1955	13,288,513	423,961	---	4,602,372	8,820,158	380,913	---	---	118,467	240,103	551,486	283,393,973
1956	8,083,341	78,322,412	---	4,315,432	12,179,739	101,245,723	---	---	---	9,445,045	---	213,394,692
1957	---	54,884,783	26,254,418	1,476,601	12,419,190	33,378,709	---	---	---	7,327,075	-6,910	133,733,636
1958	---	121,654,680	101,051	1,128,684	---	868,402	---	---	---	2,422,215	-101,220	146,073,812
1959	---	101,130,189	6,361,847	115,437	---	1,082,286	---	---	330,194	7,582,298	11,565	146,044,216
1960	---	51,234,409	24,081,403	7,804,428	10,862,421	8,017,077	2,258,380	---	---	188,467	272,751	104,719,338
1961	---	116,303,574	37,597,468	1,070,098	3,057,880	78,156,722	12,574,492	---	---	3,157,931	1/1,497,969	253,416,116
1962	24,000	853,623	31,199,597	1,531,370	7,816,011	82,031,993	7,936,163	1,532,468	---	10,572,230	1/13,282,910	135,703,277
1963	9,615	---	24,354,142	3,729,726	11,119,990	58,929,440	3,000,801	2,995,579	---	2,733,806	1/19,482,877	115,468,081
1964	---	85,000,000	27,012,132	3,056,022	4,766,789	122,970,260	12,373,212	2,047,864	---	2,313,490	1/79,388,049	288,905,798
1965	---	---	5,178,235	4,239,337	2,606,380	175,974,126	12,585,620	447,033	---	1,418,894	-22,359	227,107,466
1966	---	39,550,000	9,850,244	10,874,921	---	40,617,533	11,957,360	---	1,090,234	2,488,607	417,182	116,855,981
1967	---	---	4,346,876	37,964,491	5,284,515	119,733,256	6,369,093	-5,294	---	8,160	2/450,535	174,131,549
1968	---	9,131,064	46,699,531	11,523,700	10,886,220	67,613,465	10,927,200	---	---	13,167,208	3/1,762,637	149,320,538
1969	---	170,460,144	55,890,771	17,401,624	8,093,949	55,032,077	14,903,267	---	-61	21,298,338	3/5,063,418	369,240,435
TOTAL	219,346,813	1,056,137,714,671	500,108,380,002	818,267,337,032	1,154,205,020,135,394,611	25,101,551,21,698,215,271,244,669	---	---	---	---	---	101,967,363,14,094,735,906

1/ Includes \$637,865,818, \$19,294,881 and \$29,401,429 respectively, in undistributed food stamp plan payments.

2/ Includes \$86,420 reduction in prior year food stamp plan payments.

3/ Includes \$1,192,912 in 1968 and \$4,153,528 in 1969 for financial assistance to needy counties.

Question

32. Please indicate sum spent (direct and indirect - sources and recipients) currently, annually over the preceeding 10 years, and projected future expenditures, to reduce labor supply in agriculture, and especially in migrant agriculture, necessitated by efforts to relatively decrease the demand for agricultural labor. Please supply all data on which figures are based.

Answer

The Department of Agriculture spends no funds for the purpose of reducing labor supply in agriculture.

Question

33. Please indicate measures of relative effectiveness of monies spent to change the nature of the demand for agricultural (and migratory agricultural) labor compared with monies spent to change labor supply. Please supply all data on which these measures are based. If no data are available, please explain why not.

Answer

There are no measures of the relative effectiveness of monies spent to change the nature of the demand for agricultural labor compared with monies spent to change labor supply. The reason is that no funds are spent by USDA for the purpose of reducing labor supply.

(Here follows a list of enclosures submitted with their respective responses to questions, by the Department of Agriculture and the Department of Labor. Because of space and printing limitations, only the following excerpts will be included in the hearing record.)

- The following enclosures were submitted by the Department of Agriculture:
- Enclosure 1—*Farm Labor Used for Fruits and Tree Nuts*, 1964, U.S. Department of Agriculture, Economic Research Service, Statistical Bulletin No. 436.
 - Enclosure 2—*Farm Labor Inputs*, 1964, U.S. Department of Agriculture, Economic Research Service, Statistical Bulletin No. 438.
 - Enclosure 3—*Labor Used to Produce Vegetables; Estimates by States, 1959*, Farm Production Economics Division, Economic Research Service, U.S. Department of Agriculture, Statistical Bulletin No. 341.
 - Enclosure 4—*A Socio-Economic Profile of the 1965 Farm Wage Force*, U.S. Department of Agriculture, Economic Research Service, Agricultural Economic Report No. 157.
 - Enclosure 5—*Occupational Change Among Spanish-Americans in Atascosa County and San Antonio, Texas*, Texas A&M University, Texas Agricultural Experiment Station Report No. B-1061, R. E. Patterson, Director, College Station, Texas, December 1966.
 - Enclosure 6—*Changes in the Spanish Speaking Labor Force of Saginaw County, Michigan*, by Olen E. Leonard, Social Science Research Center, Mississippi State University, Report No. 22, September 1968.
 - Enclosure 7—*A Survey of Migrant Farmworker Housing in Oregon*, by Melvin J. Conklin and Robert C. McElroy, Agricultural Experiment Station, Oregon State University, Corvallis, in cooperation with the United States Department of Agriculture, Station Bulletin 602, June 1966.
 - Enclosure 8—*The Farm Worker In a Changing Agriculture*, Part I in a series on Technological Change and Farm Labor Use, Kern County, California, 1961, by William H. Metzler, California Agricultural Experiment Station, Giannini Foundation of Agricultural Economics, in cooperation with Farm Production Economics Division, Economic Research Service, U.S.D.A., Giannini Foundation Research Report No. 277, September 1964.
 - Enclosure 9—*Farm Workers in a Specialized Seasonal Crop Area, Stanislaus County, California*, by William H. Metzler, California Agricultural Experiment Station, Giannini Foundation of Agricultural Economics, in cooperation with Farm Production Economics Division, Economic Research Service, U.S.D.A., Giannini Foundation Research Report No. 289, July 1966.
 - Enclosure 10—*The Hired Farm Working Force of 1968; a Statistical Report*, by Robert C. McElroy, Economic Research Service, U.S. Department of Agriculture, Agricultural Economic Report No. 164, June 1969.
 - Enclosure 11—*Termination of the Brucero Program*, by Robert C. McElroy and Earle E. Gavett, Economic Research Service, U.S. Department of Agriculture, Agricultural Economic Report No. 77, June 1965.
 - Enclosure 12—*Domestic Migratory Farmworkers; Personal and Economic Characteristics*, prepared under the direction of Robert C. McElroy, Economic Research Service, U.S. Department of Agriculture, Agricultural Economic Report No. 121, September 1967.
 - Enclosure 13—*1969 Manpower Report of the President*, U.S. Department of Labor.
 - Enclosure 14—*Major Statistical Series of the U.S. Department of Agriculture; How They are Constructed and Used; Volume 2. Agricultural Production and Efficiency*, U.S. Department of Agriculture, Agriculture Handbook No. 365, April 1970, vol. 2.
 - Enclosure 15—*Crop Production*, Crop Reporting Board, Statistical Reporting Service, U.S. Department of Agriculture, March 1970.
 - Enclosure 16—*Farm Labor*, Crop Reporting Board, Statistical Reporting Service, U.S. Department of Agriculture, January 1969.
 - Enclosure 17—*Farm Labor*, Crop Reporting Board, Statistical Reporting Service, U.S. Department of Agriculture, March 1970.
 - Enclosure 18—*The Farm Labor Situation in Selected States, 1965-66*, Economic Research Service, U.S. Department of Agriculture, Agricultural Economic Report No. 110.

- Enclosure 19—*Low-Income Families in the Spanish-Surname Population of the Southwest*, by Olen E. Leonard and Helen W. Johnson, Economic Research Service, U.S. Department of Agriculture, April 1967, Agricultural Economic Report No. 112.
- Enclosure 20—*Farm Labor Housing Loans and Grants*, Farmers Home Administration, U.S. Department of Agriculture, Revised May 1966, PA-521.
- Enclosure 21—*Self-Help Housing for Low Income Rural Families*, Farmers Home Administration, U.S. Department of Agriculture, November 1967, Revised November 1969, PA-822.
- Enclosure 22—*Rental and Co-Op Housing in Rural Areas*, Farmers Home Administration, U.S. Department of Agriculture, May 1967, Revised May 1969, PA-800.
- Enclosure 23—*Rural Housing Loans*, Farmers Home Administration, U.S. Department of Agriculture, Revised October 1968, PA-476.
- Enclosure 24—*Farmers Home Administration Strengthens Family Farms, Strengthens Rural Communities, Reduces Rural Poverty*, Farmers Home Administration, U.S. Department of Agriculture, Revised August 1969, PA-705.
- Enclosure 25—*Potential Supply and Replacement of Rural Males of Labor Force Age, 1960-70*, Economic Research Service, U.S. Department of Agriculture, Statistical Bulletin No. 378, October 1966.
- Enclosure 26—*Economic Implications of Future Horticultural and Engineering Technology in the Production of Fruits and Vegetables*, by Velmar W. Davis, Economic Research Service, U.S. Department of Agriculture.
- Enclosure 27—*Labor Used to Produce Field Crops; Estimates by States*, by Robert C. McElroy, Reuben W. Hecht, and Earle E. Gavett, Economic Research Service, U.S. Department of Agriculture, Statistical Bulletin No. 346, May 1964.
- Enclosure 28—*Changes in Farm Production and Efficiency; a Summary Report, 1969*, Economic Research Service, U.S. Department of Agriculture, Statistical Bulletin No. 233, Revised June 1969.
- Enclosure 29—*Potential Mechanization in the Flue-Cured Tobacco Industry With Emphasis on Human Resource Adjustment*, Economic Research Service, U.S. Department of Agriculture, Agricultural Economic Report No. 169, September 1969.

APRIL 7, 1970.

In accordance with the statement contained in the USDA response to the questions posed by Senator Mondale to Secretary Hardin on March 3, the following publications are listed by agency and number.

Economic Research Service :

AER Nos. : 77, 110, 112, 121, 157, 169, 180.
 Statistical Bulletin Nos. : 346, 233, 438, 436, 341, 378.
 Agriculture Handbook : No. 365, volume 2, and volume 7.

Farmers Home Administration :

PA—800, 476, 705, 822, and 521.

Statistical Reporting Service :

Crop Production, March 1970.
 Farm Labor, March 1970.

State Publications :

California—Giannini Foundation Research Report No. 277 and 289.
 Oregon—Agricultural Experiment Station Bulletin No. 602.
 Mississippi—Mississippi State University Report No. 22.
 Texas—Agricultural Experiment Station Report No. B-1061.

Other Publications :

1969 Manpower Report of the President.
 Part 4, Senate Hearings, 90th Congress (Farm Labor in a Changing Agriculture).
Economic Implications of Future Horticultural and Engineering Technology in the Production of Fruits and Vegetables—by Velmar W. Davis, FPED, ERS.

The following enclosures were submitted by the Department of Labor:

- Enclosure 1—*Agricultural Labor Mobility* by Paul B. Miller, published in *Fruit and Vegetable Harvest Mechanization, Manpower Implications*, B. F. Cargill and G. E. Rossmiller, editors, Rural Manpower Center, Michigan State University, 1969, sponsored by the Manpower Administration.
- Enclosure 2—Article entitled "Improving Economic Opportunity for the Mexican American" from *Urban and Regional Dimensions of Manpower Policy*, (prepared under contract to the Manpower Administration).
- Enclosure 3—*Rural Worker Adjustment to Urban Life*, by Varden Fuller, Institute of Labor and Industrial Relations, University of Michigan-Wayne State University and the National Manpower Policy Task Force, February 1970.
- Enclosure 4—*The California Farm Labor Force: A Profile, April 1969*, by the Advisory Committee on Farm Labor Research, California Legislature, Assembly Committee on Agriculture, with the assistance of the California Department of Employment and the financial support of the U.S. Department of Labor.
- Enclosures 5 and 6—*Federal Manpower Programs, An Evaluation by the National Manpower Advisory Committee*, March 1968, by the Manpower Administration; *Federal Training and Work Programs in the Sixties*, by Sar A. Levitan and Garth L. Mangum, Institute of Labor and Industrial Relations, the University of Michigan-Wayne State University, 1969, by the Manpower Administration.
- Enclosure 7—Report of the Rural Manpower Services Task Force, by Varden Fuller, Thomas H. Bride, and Daniel Sturt, January 1968.
- Enclosure 8—*Farm Labor in the United States*, C. E. Bishop, editor, Columbia University Press, 1967.
- Enclosure 9—See enclosure 1.



FRUIT AND VEGETABLE HARVEST MECHANIZATION Technological Implications

B. F. CARGILL and G. E. ROSSMILLER, Editors

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Additional copies of this report, *Technical Implications*, Rural Manpower Report No. 16, are available for \$3.50 from either the American Society of Agricultural Engineers, St. Joseph, Michigan 49085, or Bulletin Office, Agriculture Hall, Michigan State University, East Lansing, Michigan 48823. Copies of the other two reports in this series, *Manpower Implications*, Rural Manpower Report No. 17 and *Policy Implications*, Rural Manpower Report No. 18, are available for \$2.50 and \$2.00 respectively from Bulletin Office, Agriculture Hall, Michigan State University, East Lansing, Michigan 48823.

PREFACE

This is the first of a series of three publications emanating from a nationwide project on the Manpower Implications of Mechanization in Fruit and Vegetable Harvesting. The project, designed in three phases, has the following general objectives:

- I. To present technological information on all aspects of fruit and vegetable harvesting.
- II. To assess the implications fruit and vegetable mechanization will have on manpower, the industry, the consumer, and the public.
- III. To assimilate and analyze material presented in fulfillment of the first two objectives and to present conclusions and recommendations dealing with the nature and priority of policies, programs, and research.

Each of the above objectives will be dealt with in the respective project phase and culminate with the appropriate publication as follows:

Fruit and Vegetable Harvest Mechanization, Technological Implications. Rural Manpower Center Report No. 16.

Fruit and Vegetable Harvest Mechanization, Manpower Implications. Rural Manpower Center Report No. 17.

Fruit and Vegetable Harvest Mechanization, Policy Implications. Rural Manpower Center Report No. 18.

The editors wish to acknowledge the U.S. Department of Labor for financial support, and the Rural Manpower Center, Departments of Agricultural Engineering and Agricultural Economics, all of Michigan State University, for providing personnel and services for the project. The views expressed by the authors contributing to this publication do not necessarily reflect the viewpoints or policy of the above named institutions.

The editors also wish to express their sincere appreciation to Daniel Sturt, Director, Rural Manpower Center, for his council and guidance.

The basis for this publication was a Technical Seminar on the Implications of Mechanization for Fruit and Vegetable Harvesting held under endorsement of the American Society of Agricultural Engineers in December, 1968. At this seminar 45 nationally recognized scientists--agricultural engineers, horticulturists, and agricultural economists--presented assigned papers on categorized aspects of production technology in the fruit and vegetable industry.

To assist with the formulation of the Technical Seminar agenda and to provide continuity between Phase I, the Technical Seminar, and Phase II, the Manpower Colloquium, a Task Force on Technology was established. This Task Force on Technology consisting of four agricultural engineers, two horticulturists, and two agricultural economists was instrumental in the drafting of the Technical Seminar agenda and selecting key national scientists to prepare and present the required papers. The Task Force is also responsible for a

summary report of the results of the Technical Seminar at the Manpower Colloquium. The contribution of the Task Force on Technology--Michael O'Brien, E. Stanley Shepardson, B. A. Stout, Donald Black, William Sims, R. Paul Larsen, Eric Thor, and Velmar Davis--is gratefully acknowledged.

It has been a privilege to work with such a knowledgeable group of dedicated persons who have contributed to the success of the project in Phase I, culminating in this first of a series of three publications.

Michigan State University
May, 1969

B. F. Cargill
G. E. Rossmiller

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INTRODUCTION

B. F. Cargill

The background, historical patterns, and trends of growth and development of the fruit and vegetable industry are important in setting the stage for this publication. Since the day Adam selected and harvested the apple from the tree in the Garden of Eden, the world has been striving to develop a better apple and a better tree and improve the methods of harvest. Until recent decades, however, fruits and vegetables have remained in that select group of products individually selected and hand harvested.

It is obvious that fruits and vegetables must follow the trends established for the staple food and feed crops which succumbed to the technology of mechanization many years ago. It is not the intent of this introductory chapter to be specific for any individual fruit or vegetable crop but rather to suggest the philosophy and trends. Predictions are that any fruit or vegetable crop that cannot be mechanically harvested will disappear from the consumers shopping lists due to economic competition from fruits and vegetables that can be mechanized.

In some cases mechanization has been successful for the processed product and not the fresh market product. This has been one factor influencing an important trend in our fruit and vegetable industry--the trend toward increased percentage of processed fruits and vegetables. As an aggregate, the per capita consumption of all fruits and vegetables in 1935 was about 480 pounds. By 1960 this per capita consumption increased to more than 500 pounds. Within this array of fruit and vegetable commodities, some have increased and others decreased in per capita consumption. Processing of fruit and vegetables has played a significant role in this increased per capita consumption. Prior to World War II less than 20% of the fruits and vegetables were processed. Some projections indicate that by 1980, 65 to 70% of the total U.S. production of fruits and vegetables will be processed. These processed fruits and vegetables will be a responsible factor in continued per capita consumption increases in aggregate production of fruit and vegetables.

On the input side we find that over one-fourth of all farm labor used for the production of crops in the U.S. is expended on fruits and vegetables. Since the close of World War II the annual man-hours of farm labor have been reduced. This reduction in total farm labor by 55% (from 18.8 billion to approximately 7.5 billion in 1967) is more significant when we realize that production of field crops has become more efficient in mechanization relative to fruit and vegetable production.

Farm laborers, and in particular, migrant laborers have declined steadily over the past years. Growers depend heavily upon these seasonal workers and the forecast is for an even tighter labor market, which can only result in reduced production of certain crops if labor saving machines are not readily

available to the industry. Without mechanization fruit and vegetable growers may have labor costs that are well over 50% of their total production cost--labor being the most expensive single input in the fruit and vegetable grower's operation. Without mechanization the grower must depend to a large extent upon seasonal workers, many who only enter the seasonal work pool for a few weeks or months.

Another dimension to the utilization of fruits and vegetables is the fact that the population of the United States will continue to increase. The U.S. population is projected to increase from 188 million of the early 1960's to approximately 245 million by 1980. Because of the rising population, the total consumption of farm produce including fruits and vegetables will increase.

The national economy is expected to exceed the trillion dollar level by 1980 and people will have more leisure time. The average work week may be reduced to four days, and more people will retire at an early age. It is also predicted that a larger portion of the labor force will be women. This will require more convenience and processed foods for easy preparation due to the outside activities of the homemaker. With increased salaries plus limited preparation time obvious in the years ahead, the consumer will demand and be willing to pay for more services incorporated and marketed with the food. Thus, the homemaker will be more interested in the quality of the food that her family consumes than the absolute cost of the product. The trend will be for the per capita calorie consumption to decline, and a shift toward increased per capita consumption of the ready-made processed fruits and vegetables is evident.

Along with changes in food consumption patterns will be changes in the food buying habits of the consumer. Food retailing organizations will undergo great changes in the decades ahead with more corporate and affiliate groups supplying the food to the American public. It is predicted that we will have more vertical integration between the retail, wholesale, processing, and production organizations; and a very high percent of the total retail food sales will pass through a few organized groups or chain outlets. The shelves of these large marketing organizations will continue to contain many items of a non-food nature which influence the consumers expenditures for "food". As a result, these non-food items will continue to be accepted as a part of the so-called food budget.

Another important factor influencing the fruit and vegetable industry is the changing production and consumption patterns of foreign countries. Increasing population, increasing incomes, changing consumer tastes, increasing wages, the use of more sophisticated technology, and international capital flows will contribute to the production and consumption shifts. As a result, international trade patterns will change. The effect on the U.S. industry may be significant, particularly on the production side.

The salvation from extinction of many fruit and vegetable commodities is research on mechanization directed toward the development of mechanical harvesting techniques. The solution to most fruit and vegetable problems are directly related to the machines and preservation techniques available; and likewise, almost every new development in plant science research requires engineering research for its most effective implementation. For example, rheological properties (physical and mechanical properties) for fruits and vegetables are essential for the design and development of mechanical harvesting and handling devices. Without this background of adequate knowledge, mechanical harvesting and handling systems may prove unsuccessful. Another fundamental research aspect is that plant breeding research may alter the mechanization concept or vice versa--mechanization designs may dictate the plant, tree, or cultural practices such as modified trees or intensified seedbeds with maximum plants for optimum yields. As research continues to develop more efficient, lower cost per unit of mechanical harvesting techniques, fruit and vegetable growers will continue to substitute capital investments for labor in the reorganization of their enterprises in order to increase the output per man-hour. Other evidence of fruit and vegetable grower acceptance of new technology and research includes the use of environmental storage facilities (including C. A. Storages), larger and newer marketing facilities, on and off farm processing facilities, support of industries as nursery and greenhouse facilities, and bedding plant operations. The fruit and vegetable grower is interested in any technology which will increase high quality output per acre at a lower cost on larger holdings.

The implications and trends in mechanical harvesting indicate growers will continue to increase production in spite of increased wages, declines in the labor force, declines in cropland acreage, and increased training requirements for more efficient use of farm laborers in the operation of larger and more efficient machines. These more efficient, but expensive machines, will permit growers more economical operation of larger holdings with less manpower resulting in more timely harvest of their fruit and vegetable crops. The timely performance of some critical operations will result in major changes in the mechanization of fruit and vegetable crops, and these changes will occur in system techniques in harvesting and handling. These will include the development of mechanical harvesting and handling systems that are essential if the growers are to continue to produce their crops at present levels. Increased costs and lack of availability of harvesting labor will restrict expansion of production of some fruit or vegetable crops if mechanical harvesting techniques are not available. In some cases, the restrictions will be so severe as to reduce the acreage or even eliminate the crop.

Thus, it is with this background that the project on "Implications of Fruit and Vegetable Harvest Mechanization" was conceived. Many universities, firms in the industry, governmental research stations, and agencies have

within their organizations people who have studied in depth various aspects of the passive problems evolving from the need for mechanization in the fruit and vegetable industry. The problem not only has technological overtones but also has economic, social, and political dimensions as well.

This is a three phase project on the assimilation of knowledge in an effort to more closely bring into focus and provide a solution to the broad problems in technology, manpower, and policy associated with fruit and vegetable mechanization. Phase I, the Technical Implications culminated in this publication, resulted from technical papers presented by 45 scientists at a Technical Seminar. These scientists were asked to present their papers on fruits and vegetables based on a classified grouping designed to integrate and unite mechanization concepts previously restricted to specific crops. The rationale to use a classified grouping for the Technical Seminar proved appropriate for organization of this publication. The classified grouping is as follows:

Vegetables

Below ground vegetables
(Root, bulb, and tuber)
Fruit and pod vegetables
Vine vegetables
Leafy and stem vegetables

Fruit

On the ground fruit
Low bush fruit
High bush fruit
Grapes
Deciduous tree fruit
Miscellaneous fruits and nuts

Phase II of the project will deal in a similar manner with the Manpower Implications of Fruit and Vegetable Harvest Mechanization, and Phase III will treat the policy aspects. This latter phase is designed to use as a foundation Phase I--Technology, and Phase II--Manpower, and draft these into conclusions which may be used to develop recommendations, policies, priorities, and proposals for future endeavors.

RURAL MANPOWER - OVERVIEW

Eric Thor and John W. Mamer

Rural manpower is a general term for those persons commonly called farm labor--those employed in the production of agricultural products. It includes the self-employed farmer, members of the farm family who work on the farm, hired year-round workers, local seasonal workers, and migratory seasonal workers, both domestic and foreign.

This paper is most concerned with seasonal farm workers. They are the segment of rural manpower most directly affecting the production and harvest of fruit and vegetables and most affected by mechanization.

Historical Setting [1]

For many decades farm employment has been the first step on the economic ladder for thousands upon thousands of immigrants into the United States. Also, for many decades persons who lacked the necessary skills or desire for industrial employment have sought work in agriculture.

Conflicting views about farm labor problems in the United States' fruit and vegetable industry have persisted since the East and West were linked by rail transportation. The Central Pacific and Union Pacific Railroads were joined by the driving of a "golden" spike in May, 1869.

1870 to World War I

As transportation improved and expanded and as seasonal labor supplies developed, farmers in the West shifted their production from wheat and grains to more perishable and more labor-intensive crops. From 1870 through World War I, large acreages of farm land in the West were placed under irrigation. In the process, many large land holdings were subdivided into smaller farms. As the intensive production of fruits and vegetables increased, so did the need for seasonal farm labor.

One of the first groups available for seasonal employment on California fruit and vegetable farms was the Chinese. The Chinese had come to the United States to help build the transcontinental railroad. After the railroad was completed these workers became unemployed. Agriculture provided the only opportunity for most of them. Soon, however, labor groups and others began charging at public meetings and in statements to newspapers that the Chinese were taking jobs away from whites. Intensive anti-Chinese campaigns culminated in the Chinese Exclusion Act of 1882.

Historians have noted that the Chinese by doing the "stoop labor" tasks had helped to get commercial fruit and vegetable production started in California and thereby helped to open up better jobs for the whites in industries associated with agriculture.

Between 1882 and 1889, two new groups of workers sought seasonal employment in the fruit and vegetable industry: (1) whites who because of the

severe depression of the 1880's had been laid off from their factory jobs in the cities, and (2) new Japanese immigrants. The two groups competed for the jobs.

The competition for employment created resentment against the Japanese immigrants. This resentment continued even after the depression was over in 1890 and the whites had gone back to the cities. The same groups that had opposed the Chinese set off strong anti-Japanese movements during the 1890's and early 1900's. Responding to the pressure of the U.S. social and labor groups, the Japanese government attempted to discourage immigration to the continental United States. Japanese laborers thwarted this move by first migrating to Hawaii, Canada, and Mexico, and then re-immigrating into the United States.

The Japanese like the Chinese made a lasting mark on the fruit and vegetable industry. One of their most significant contributions was the widespread establishment of piece-rate wage system which is still used today. Their view was that piece-rate wages gave willing workers an opportunity to earn better wages than other farm workers. This approach to wages made them unpopular with domestic white workers and contributed to eventual Japanese exclusion.

After 1907, fruit and vegetable farmers began encouraging the immigration of Europeans. Most European immigrants, however, found work in the growing non-agricultural industries. The number of Europeans employed as seasonal farm workers never became large. From 1907 to 1916 the seasonal farm labor force in fruit and vegetables included Chinese, Japanese, Mexicans, Filipinos, Negroes, Europeans, and native-born whites. Data are not available to determine their relative proportion in the total labor force.

World War I - World War II

The years from World War I to World War II brought increased demands for fruit and vegetables. The call to arms of young men for World War I plus the increased need for food and fiber created a shortage of farm workers. To help farmers obtain seasonal labor government assisted in recruitment. Domestic recruitment efforts failed to attract the number of workers necessary to meet the needs of an expanding agriculture. The great need of food for the Allies forced the United States Government to bring workers in from outside of the United States to help in the production and harvest of the crops.

In May, 1917, the Department of Labor authorized farmers to employ workers from Mexico on U.S. farms. Although Mexican laborers had immigrated to the United States for two decades, it was not until after U.S. entry into the war that Mexican workers became the dominant labor force in the fruit and vegetable industry.

In the spring of 1918, the Secretary of Labor extended the farm labor emergency exceptions to include agricultural workers from Canada. Statistics

are incomplete, but a committee investigating the farm labor situation in 1920 estimated that more than 50,000 Mexicans entered the United States during the World War I emergency. This committee also reported that, contrary to popular opinion, the imported Mexicans had not come into direct competition with white labor for farm jobs, nor had they displaced white laborers. The white workers had gone to war, gone to work in the expanding non-agricultural industries, or were not in the United States in sufficient numbers to take care of the expanded agriculture and industry.

After World War I large numbers of immigrants from many countries entered the United States. Labor groups demanded limits on the number of persons who could enter the United States. The first quota legislation on immigration was approved in 1921. This slowed the rate of inflow, but unskilled workers continued to immigrate into the United States throughout the 1920's. Many found employment in the production and harvest of fruit and vegetables.

Filipino laborers had been free to enter the United States from the beginning of the century. They did not, however, migrate to the United States in large numbers until 1923. Between 1923 and 1929, Mexican and Filipino immigrants were the primary source of new workers employed by fruit and vegetable farmers.

At its September, 1927, convention, the California State Federation of Labor took the position that there should be quota restrictions on Mexicans and that Filipinos should be excluded from immigration. Support for labor's determination to restrict Mexican immigration came from the American Legion, the state and federal Public Health Departments, social workers, school teachers, ministers, and "do-good" organizations. Consequently, a policy restricting immigration of Mexicans and Filipinos was adopted in March, 1929.

After the depression began in May, 1929, domestic workers who had been working in the factories turned to agriculture for employment. A second time in 50 years, workers who became unemployed in non-agricultural industries sought farm employment. Throughout the depression there were cries from social and labor groups that white Americans who wanted farm work were unable to work because foreign workers (mostly legal immigrants) had the jobs.

World War II - 1964

World War II affected the need and the supply of farm labor much the same as did World War I. The United States again became the breadbasket and arsenal of the Allies. As in World War I, workers left agriculture for non-agricultural jobs. Farm labor became scarce. By early 1942 the farm labor situation had become critical. Farmers went to the government for help. During the war years and up until December 31, 1947, approximately 310,000 foreign workers were imported into the United States from Mexico, Jamaica, the Bahamas, and Canada to work on farms (Table 1).

At the end of World War II, the same groups that sought to eliminate

Table 1. Annual Peak Employment of Foreign Workers Admitted for Temporary Jobs in U.S. Agriculture, by Nationality, Year, and Month, 1942-1967

Calendar Year	All Foreign Workers ^a		Mexicans		B W I's		Canadians		Japanese		Filipinos	
	Number	Month	Number	Month	Number	Month	Number	Month	Number	Month	Number	Month
1942	4,200	Sept.	4,200	Sept.								
1943	36,289	Sept.	36,289	Sept.	13,114	July						
1944	66,572	Sept.	65,097	Sept.	24,101	July	1,475	Sept.				
1945	94,210	July	65,421	July	28,789	July	3,635	Sept.				
1946	45,354	July	45,354	July	24,157	Oct.	4,926	Sept.				
1947 ^{c,d}	96,840	June	36,840	June	10,026	Aug.	6,254	Sept.				
1948 ^{c,d}	40,000	Oct.	35,600	Oct.	8,000	July	5,400	Sept.				
1949 ^d	85,600	Oct.	74,778	Oct.	6,480	Aug.	1,998	Oct.				
1950 ^d	89,100 ^e	Oct.	70,700	Oct.	8,300	July	2,500	Oct.				
1951	130,104 ^e	Oct.	121,600	Oct.	13,900	June	2,300	Sept.				
1952	139,437	Oct.	125,473	Oct.	12,257	July	5,200	Oct.				
1953	171,128	Oct.	159,174	Oct.	11,954	Oct.	5,700	Oct.				
1954	202,626	Oct.	194,534	Oct.	11,732	Feb.	6,276	Sept.				
1955	240,841	Oct.	232,297	Oct.	9,851	Dec.	6,686	Sept.	390	Oct.		
1956	290,156	Oct.	276,893	Oct.	11,257	Dec.	6,648	Sept.	990	Sept.	33	Oct.
1957	272,435	Oct.	260,522	Oct.	12,199	May	7,200	Sept.	1,200	Sept.	25	Oct.
1958	284,835	Sept.	274,525	Oct.	11,674	Jan.	6,876	Sept.	1,560	Dec.	30	June-Dec.
1959	308,168	Sept.	291,515	Sept.	10,978	Dec.	8,491	Sept.	1,830	Dec.	30	Jan.-Apr.
1960	246,675	Sept.	234,171	Sept.	11,645	Dec.	8,026	Sept.	1,780	Jan.	0	---
1961	220,934	Oct.	208,511	Oct.	12,174	Dec.	8,561	Sept.	1,440	Apr.	120	Dec.
1962	127,032	Sept.	111,414	Sept.	13,834	Dec.	8,722	Sept.	1,260	Aug.	120	Jan.-Oct.
1963	105,454	Sept.	90,142	Sept.	14,887	Jan.	8,442	Sept.	1,240	July	120	Jan.-May
1964	92,784	Sept.	82,140	Sept.	15,062	Dec.	7,812	Sept.	870	Jan.	60	May -June
1965	23,698	Sept.	16,650	Sept.	14,929	Jan.	4,223	Sept.	194	Apr.	0	---
1966	12,169	Sept.	7,760	Sept.	8,835	Dec.	3,529	Sept.	0	---	0	---
1967	12,531	Oct.	6,124	Oct.	9,015	Dec.	3,854	Sept.				

Source: *Farm Labor Development*, February 1968, U.S. Department of Labor, Manpower Administration, Washington, D.C., p. 13.^aThe monthly peak of total foreign workers does not necessarily coincide with the monthly peak for each nationality.^bDate from 1942 through 1947 were obtained from reports prepared by the U.S. Department of Agriculture.^cDate from 1948 through 1967 compiled by the Bureau of Employment Security, U.S. Department of Labor. (1948-52 figures based on special administrative reports; 1953-66 figures based on In-Season Farm Labor Reports; 1967 figures based on weekly reports of regional directors, Office of Farm Labor Service.)^d1948, 1949, and 1950 data on monthly foreign-worker employment are estimated from incomplete reports.^eAlthough Puerto Ricans are not foreign workers they are included in these totals.

foreign workers from agriculture after World War I began to apply pressure on government to force agriculture to hire only domestic workers. However, domestic workers who had been employed on farms during the depression and who had found wartime employment in non-agricultural industries did not return to agriculture, and the supply of workers seeking employment in agriculture remained small.

In 1951, when the Korean War began, agriculture was again called upon to increase production of food and fiber. Seasonal farm workers were already in short supply. Farmers maintained that if they were to increase production they would need foreign workers. Public Law 78, often called the Mexican National (Bracero) Contract Farm Labor Program, was passed by Congress. It authorized the importation of foreign workers under contract to accept seasonal agricultural employment.

The demand for fruits and vegetables expanded throughout the 1950's. The supply of domestic seasonal farm workers continued to be in short supply relative to demand. Farmers, particularly fruit and vegetable growers, reported that it was difficult to obtain an adequate number of workers. Public Law 78 was continued. From 1943 to 1964, foreign workers from Mexico, the British West Indies, Canada, Japan, and the Philippine Islands were admitted under contract for seasonal work in agriculture. The number of foreign workers admitted for temporary farm work reached a peak of 308,168 in 1959.

The Mexican National was the predominant foreign worker in the period from 1943 to 1964. The maximum number of British West Indians (BWI's) employed in a single year was never over 30,000. Canadians never exceeded 8,000 in any year. The Japanese did not exceed 2,000. The largest number of Filipinos was 120. No fewer than 100,000 Mexicans were employed at peak in every year from 1951 to 1963. In 1959, there were 291,515 Mexican Nationals employed at the harvest peak (Table 2).

Public Law 78 was terminated on December 31, 1964. However, with the advent of the Vietnam conflict came an increasing demand for agricultural products. It became necessary to continue importing foreign contract workers for seasonal employment in agriculture.

In 1965, there were 16,650 Mexicans and 14,929 BWI's employed at peak. At the 1967 peak, 6,124 Mexicans, 9,015 BWI's, and 3,854 Canadians were employed. (Domestic migrant workers include legal immigrants, as well as native-born.) No foreign workers were imported into California in 1968. However, some BWI's and some Canadians were brought into to help harvest apples, potatoes, and sugar cane in some of the eastern states. It is doubtful that foreign contract workers will again be available, except in extreme emergency, such as a major war.

Domestic Seasonal Labor

Seasonal farm work is performed by local workers (those who work only

Table 2. Estimated Man-Months of Employment of Foreign Contract Workers,
by Nationality, United States, 1953 to 1967

Year	Total	Man-Months of Foreign-Worker Employment				Japanese and Filipinos
		Mexicans	B.W.I.'s	Canadians		
		Thousands of Man-Months				
1953*	960.4	847.8	109.9	2.7		0
1954	998.2	896.1	90.7	11.4		0
1955	1,484.3	1,373.8	102.2	8.4		0
1956	1,622.8	1,507.8	106.5	7.7		0.8
1957	1,733.2	1,587.9	126.4	9.2		12.5
1958	1,686.7	1,581.5	86.1	6.5		16.3
1959	1,749.7	1,631.0	96.1	6.4		18.7
1960	1,480.3	1,358.1	95.8	7.7		18.4
1961	1,278.4	1,148.9	102.6	8.4		15.5
1962	848.1	716.4	108.2	8.0		15.5
1963	678.3	550.4	103.9	8.6		15.6
1964	633.9	508.1	101.0	9.2		5.5
1965	109.1	26.5	72.0	5.1		1.0
1966	60.8	12.3	44.0	3.6		0
1967	57.7	7.1	46.7	3.8		

Source: Farm Labor Developments, February 1968, U.S. Department of Labor, Manpower Administration, Washington, D.C., p. 8.

*First year for which In-Season Farm Labor Reports were submitted for the entire year.

NOTE: Due to rounding, figures may not add to totals.

in their own communities) and by workers who migrate from area to area following the crops. (Domestic migrant workers include legal immigrants, as well as native-born.) Slightly more than a million local workers are employed on a temporary basis in agriculture. About 350,000 domestic workers migrate in pursuit of farm employment. The number of such workers has fluctuated between 350,000 and 450,000 since 1949 [3] (Table 3). To these domestic workers should be added some of the 600,000 Mexicans who hold immigration visas that enable them to come to the United States to work. Data are not available to estimate exactly how many of these are employed in seasonal agricultural labor. A survey indicates that about 35,000 were temporarily employed in agriculture in 1965. It is believed that the number was considerably larger in 1968.

Patterns of Migration

Farm workers who spend their winters in Texas or Florida have several well-established patterns of migration. In the spring and summer these workers travel to the North. The largest group goes north and east from Texas and ends its summer work in Michigan. Smaller groups travel from Texas in the direction of the Mountain States. Some branch off and go to California, Arizona, Oregon, and Washington. A few also move directly north to the Plains States, terminating their migration in North Dakota (Table 4).

The second largest group migrates from Florida north along the Atlantic Coast, terminating its travels in New York and the New England States.

A third but smaller group migrates from Southern California to Northern California and into Oregon and Washington.

In the Florida-Atlantic Coast migration, both whites and non-whites follow the crops north. A 1966 survey indicates whites predominate among these migratory workers from the Southeast. Americans of Mexican origin dominate the group that migrates from Texas. Also in the Pacific Coast migration, Americans of Mexican origin tend to predominate.

Seasonal Employment by States

Nine states employ nearly all of the seasonal workers used in the production and harvest of fruits and vegetables. The relationship between the expenditure for hired labor and cash receipts from farm marketings in these nine states varies from a low of 6% to a high of 17%. These states, and the expenditures for hired labor per dollar of cash receipts from farm marketing, were as follows in 1966:

State	Expenditures for Hired Labor Per Dollar Cash Receipts from Farm Marketings
California	17 Cents
New York	7
New Jersey	16
Oregon	10
Ohio	4

Table 3. Domestic Migratory Workers
Employed For Any Period During
Specified Years, Selected Years,
1949-1966

Year	Thousands of Workers*
1949	422
1952	352
1954	365
1956	427
1957	427
1959	477
1960	409
1961	395
1962	380
1963	386
1964	386
1965	466
1966	351

Source: *Domestic Migratory Farm Workers*, U.S.D.A., E.R.S., Agricultural Economic Report No. 121, Washington, D.C., 1967, p. 2; and *Seasonal Farm Working Force of 1966*, p. 10.

*Based on household survey made annually. Does not include foreign nationals who did farm wage work, but returned to their homes before the survey. Includes persons 14 years old and over in civilian non-institutional population who did any migratory farm work for cash wages or salary at any time in the year.

Table 4. Estimated Employment of Migratory Agricultural Workers,
By State and Month, 48 States, January-December 1967
(Thousands of Workers)

State	Migrant-Worker Employment											
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
U.S. Total	35.7	38.1	38.3	53.6	107.7	200.7	238.8	228.1	209.7	165.5	52.3	41.4
Eastern Seaboard	16.5	18.8	18.5	18.1	32.6	38.7	50.0	59.6	53.2	47.0	17.7	16.8
Connecticut	.1	.2	.2	1.2	1.7	2.2	5.4	5.3	2.3	1.6	.7	.2
Delaware	0	0	0	0	3.2	1.6	.8	2.1	1.7	.8	0	0
Florida	16.3	18.6	18.2	15.9	16.9	8.2	1.8	.6	1.8	4.3	10.4	16.5
Georgia	0	0	0	0	.2	.1	0	0	0	0	0	0
Maine	0	0	0	0	0	0	0	0	*	*	0	0
Maryland	0	0	.1	.1	.2	.8	2.3	2.0	1.3	1.0	.4	0
Massachusetts	0	0	0	0	.8	1.5	2.1	1.9	2.0	.9	.4	*
New Hampshire	0	0	0	0	0	*	.1	.1	.2	.2	*	0
New Jersey	0	0	0	.9	6.1	11.2	10.5	12.2	10.6	5.6	.5	.1
New York	0	0	0	0	2.1	4.2	8.3	14.4	16.7	16.9	.2	0
North Carolina	*	*	*	.1	.6	2.7	9.9	11.6	7.5	5.2	1.6	0
Pennsylvania	0	0	0	0	.3	.6	.7	2.5	5.3	5.9	1.8	0
Rhode Island	0	0	0	0	3	0	0	0	0	0	0	0
South Carolina	0	0	0	0	0	4.5	3.7	2.6	0	.1	.1	0
Vermont	0	0	0	0	0	*	*	*	.1	.1	0	0
Virginia**	0	0	0	0	.5	1.1	4.5	4.5	3.7	4.0	1.6	0
West Virginia**	0	0	0	0	0	0	0	0	.1	.2	0	0
North-Central	0	0	0	2.7	14.3	56.9	80.5	76.1	59.4	36.8	2.3	0
Illinois	0	0	0	0	3.7	4.9	3.7	4.2	5.3	2.4	0	0
Indiana	0	0	0	0	1.4	2.9	3.0	6.7	8.8	5.4	0	0
Iowa	0	0	0	0	.3	.3	.5	.8	.7	.1	.1	0
Kansas	0	0	0	.8	2.3	4.1	5.2	1.6	1.7	1.6	.7	0
Michigan	0	0	0	.5	2.1	26.8	40.1	34.3	19.1	12.4	1.5	0
Minnesota	0	0	0	0	.2	5.6	5.7	.3	.2	1.0	0	0
Missouri	0	0	0	0	.2	.2	0	0	.2	*	0	0
Nebraska	0	0	0	0	0	2.1	7.6	1.0	.1	.2	0	0
North Dakota	0	0	0	1.4	2.2	4.1	4.8	6.3	2.2	5.2	0	0
Ohio	0	0	0	0	1.5	4.9	6.7	12.1	19.7	7.2	0	0
Wisconsin	0	0	0	0	.5	1.0	3.2	8.8	1.5	1.2	0	0

(continued)

Table 4. (continued) Estimated Employment of Migratory Agricultural Workers, by State and Month, 48 States, January-December 1967
(Thousands of Workers)

State	Migrant-Worker Employment											
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
South-Central	.4	.1	.4	3.5	6.8	12.3	21.4	18.4	11.1	12.1	12.5	8.4
Alabama	0	0	0	0	1.0	.9	1.2	.9	.2	.2	.1	.
Arkansas	0	0	0	0	1.5	0	.3	0	0	.3	.5	0
Kentucky	0	0	0	0	1.1	.2	0	1.0	.1	.1	0	0
Louisiana	.1	0	0	2.6	.3	0	0	0	.7	.6	.6	.3
Mississippi	0	0	0	0	0	0	0	0	0	0	.3	.2
Oklahoma	*	0	.1	.6	2.0	8.2	3.6	2.5	2.1	.8	.7	.6
Tennessee	0	0	0	0	.4	.2	*	.3	*	.1	0	0
Texas	.3	.1	.3	.4	.5	2.9	17.2	13.7	8.0	10.2	10.3	7.2
Western	18.8	19.2	19.4	29.3	54.0	92.8	87.0	74.1	86.0	69.6	19.7	16.2
Arizona	3.6	2.3	2.6	3.6	2.8	3.2	2.3	.9	1.3	2.3	4.0	4.3
California	14.8	15.6	14.1	18.6	29.8	40.4	32.9	32.9	34.5	35.3	12.3	11.4
Colorado	0	0	0	.6	3.6	8.7	7.1	6.6	5.2	3.7	.4	0
Idaho	0	0	0	1.4	4.1	6.6	7.6	3.4	4.2	4.5	.8	0
Montana	.2	.2	.4	1.1	1.4	5.5	5.4	5.3	3.5	2.2	1.1	.4
Nevada	0	0	0	0	0	0	0	1.0	.2	0	0	0
New Mexico	*	0	*	*	.5	.6	.4	.2	*	1.1	.3	.1
Oregon	*	.4	.7	.8	3.4	13.2	14.0	15.7	6.7	2.4	.1	.1
Utah	0	0	0	0	.3	1.1	2.2	1.8	1.4	1.4	0	0
Washington	.1	.8	1.6	3.1	7.5	10.3	13.2	6.2	9.0	16.6	.7	0
Wyoming	0	0	0	0	.7	3.1	1.9	0	0	0	0	0

Source: U.S. Congress. Senate. Committee on Labor and Public Welfare, 90th Congress, 2nd Sess., *The Migratory Farm Labor Problem in the United States*, 1968 Report of the Committee on Labor and Public Welfare, Subcommittee on Migratory Labor, Report No. 1006, Pursuant to S. Res. 44, 90th Cong. 1st Sess., Washington; U.S. Govt. Printing Office, 1968, p. 8.

*Less than 50 workers.

**Employment in Berkeley and Jefferson Counties, W. Va., included in Virginia employment figures.

NOTE: Due to rounding, figures may not add to totals.

<u>State</u>	<u>Expenditures for Hired Labor Per Dollar Cash Receipts from Farm Marketings</u>
Florida	17 Cents
Michigan	6
Texas	8
Washington	10

The amount spent for farm labor during the period 1950 to 1966 has remained almost constant in all of the states except California and Florida. In California, expenditures for hired labor increased from \$408 million in 1950 to \$677.2 million in 1966. The increase in Florida was from \$69 million to \$171.5 million (Table 5).

Farmer-Worker Relations

Seasonal agricultural workers may be described as casual farm employees. That is, there is generally no continuing relationship between the worker and the employers. Some growers may employ many of the same workers for 5 to 10 years in succession. But, the worker-job relationship is not covered by any formal contract that gives the worker prior rights to the job in the next season or guarantees the employer that the worker will return the following year at a specified time.

In some cases the understanding that prevails between returning crews and employers may approach the stability of a contractual arrangement. On the other hand, frequently, the recruitment and management of the seasonal farm work force on farms is carried out by a middleman--a labor contractor. The fruit or vegetable grower may deal only with the labor contractor, who specializes in recruiting and managing relatively large numbers of casual workers for short term seasonal jobs. In general, the relationship has been informal and unorganized.

Income to Seasonal Farm Workers

U.S. hourly farm wage rates have increased at an average annual rate of 5.2% since 1950. Industrial hourly wage rates have increased 5.5% per year. U.S. farm wage rates in 1966 were 38% of the gross hourly rate of production workers in manufacturing. In California, where there is great union and social pressure on farmers in regard to seasonal labor, the farm wage rate is 48% of the California manufacturing wage rate, and approximately 47% above the average U.S. farm wage rate (Table 6).

The annual income to seasonal farm workers has not moved up at the same rate as wages increased. In general, farmers have reduced the number of man-hours of labor hired as wages increased. For example, during the period 1950 to 1966 farm wages increased over 80% and the output of agricultural productions expanded; but the expenditures by farmers for hired labor remained almost constant--\$2.8 billion in 1950 and \$2.8 billion in 1966 (Table 5).

The total number of farm workers employed varies greatly from year to

Table 5. Cash Receipts From Farm Marketings, Operating Expenses for Hired Labor and Net Farm Income, United States and California, 1949-66

Year	United States			California		
	Cash Receipts From Farm Marketing	Hired Labor*	Net Farm Income**	Cash Receipts From Farm Marketing	Hired Labor**	Net Farm Income**
	Million Dollars			Million Dollars		
1949	27,805	2,806	12,780	2,092.7	397.7	735.2
1950	28,461	2,811	13,673	2,301.6	408.0	846.3
1951	32,858	2,921	15,987	2,768.2	438.5	1,084.0
1952	32,528	2,857	15,051	2,732.5	451.0	1,110.4
1953	31,001	2,736	13,088	2,645.3	454.8	974.4
1954	29,832	2,596	12,503	2,519.8	436.4	941.1
1955	29,490	2,615	11,464	2,680.2	447.4	1,007.2
1956	30,401	2,641	11,444	2,831.8	476.2	1,071.5
1957	29,714	2,734	11,325	2,759.7	479.2	968.4
1958	33,456	2,842	13,500	2,866.6	499.6	962.8
1959	33,511	2,882	11,454	3,119.4	536.6	1,047.5
1960***	34,154	2,923	12,079	3,189.0	549.5	970.7
1961	35,089	2,977	12,987	3,239.6	571.6	919.0
1962	36,356	2,961	13,215	3,426.7	547.4	1,010.7
1963	37,398	2,990	13,206	3,526.7	568.3	912.5
1964	37,233	2,913	12,266	3,664.2	608.5	1,072.7
1965	39,284	2,844	14,971	3,696.1	632.0	962.2
1966	43,423	2,867	16,316	3,948.0	677.2	991.6

(continued)

Table 5. (continued) Cash Receipts From Farm Marketings and Operating Expenses for Hired Labor, by States, 1949-66

Year	New York			New Jersey			Oregon			Ohio		
	Cash Receipts	Hired Labor		Cash Receipts	Hired Labor		Cash Receipts	Hired Labor		Cash Receipts	Hired Labor	
-----Million Dollars-----												
1950	779.7	113.3		292.4	46.2		380.7	54.9		894.0	64.8	
1951	891.6	119.6		348.8	49.5		444.5	56.9		1,055.9	68.0	
1952	927.5	119.4		342.4	46.9		421.6	57.8		1,076.9	61.9	
1953	851.0	110.6		346.2	46.0		393.4	55.1		1,043.4	61.0	
1954	804.3	101.9		314.3	46.6		379.5	54.0		1,026.4	54.1	
1955	806.1	94.3		307.7	47.8		404.7	53.7		990.7	56.5	
1956	815.8	97.1		330.4	46.8		410.9	53.4		1,016.0	59.6	
1957	844.8	104.5		314.6	44.2		395.6	56.0		983.7	60.1	
1958	864.3	112.3		304.6	50.5		403.2	55.0		981.4	65.3	
1959	846.3	107.9		286.5	46.5		428.7	56.8		940.3	64.1	
1960	854.6	103.9		295.4	45.0		416.1	56.1		1,005.0	64.3	
1961	853.4	105.8		286.2	43.4		411.8	55.5		1,028.6	58.6	
1962	864.0	98.2		278.0	44.9		431.9	60.8		1,055.4	61.6	
1963	872.7	92.1		271.1	46.6		424.4	60.5		1,055.4	62.8	
1964	915.2	87.5		252.6	46.4		428.9	63.5		1,107.7	55.4	
1965	938.4	81.8		256.6	47.1		471.3	58.9		1,110.2	49.8	
1966	1,002.2	72.2		274.1	44.1		513.6	55.1		1,301.8	45.5	

(continued)

Table 5. (continued) Cash Receipts From Farm Marketings and Operating Expenses for Hired Labor, by States, 1949-66

Year	Florida			Michigan			Texas			Washington		
	Cash Receipts	Hired Labor		Cash Receipts	Hired Labor		Cash Receipts	Hired Labor		Cash Receipts	Hired Labor	
-----Million Dollars-----												
1950	488.0	69.1		630.8	58.3		2,094.5	341.1		468.2	66.2	
1951	510.3	79.2		725.5	61.0		2,251.9	327.6		550.2	70.2	
1952	520.9	78.2		737.0	61.1		2,172.1	293.9		532.6	69.9	
1953	545.1	80.2		712.0	55.7		1,884.7	266.4		533.0	68.5	
1954	558.7	91.7		679.8	50.1		1,941.2	244.0		532.3	69.5	
1955	647.4	92.6		652.1	49.8		1,898.1	253.5		505.9	66.2	
1956	681.4	96.7		679.4	50.7		1,867.9	227.2		534.8	65.2	
1957	675.8	114.6		688.0	55.3		1,729.2	245.3		512.2	70.7	
1958	724.9	118.1		697.5	57.2		2,352.6	235.3		541.5	73.4	
1959	824.6	119.6		687.9	61.7		2,293.7	248.7		545.0	73.6	
1960	775.8	121.4		723.5	59.9		2,256.9	251.1		578.8	72.3	
1961	849.2	126.2		725.1	61.0		2,398.4	273.9		558.1	73.9	
1962	889.5	132.7		751.9	58.9		2,427.2	275.9		584.0	70.1	
1963	900.5	133.4		762.2	62.1		2,579.2	250.4		615.4	75.7	
1964	995.5	146.9		790.0	60.1		2,315.1	233.6		593.7	76.3	
1965	993.9	158.9		797.8	52.6		2,468.6	214.9		641.1	65.4	
1966	1,038.8	171.5		886.4	52.0		2,698.6	219.8		726.5	72.4	

Source: USDA/ERS/FIS 207 Supplement. "Farm Income" - State Estimates, 1949-1966 and "Farm Income Situation" February, 1968 issue.

*Includes cash wages, perquisites, and (1951 to date) Social Security taxes paid by employers.
 **Of farm operators.

***Including Alaska and Hawaii.

Hired Labor = Current Operating Expenses for Hired Labor.

Table 6. Farm and Nonfarm Wage Rates
California and the United States, 1950-1967

Year	California			U.S.A.		
	Farm Wage Rates	Gross Hourly Earnings of	Farm as a	Farm Wage Rates	Gross Hourly Earnings of	Farm as a
	Composite Rate	Production Workers in	Percent of	Composite Rate	Production Workers in	Percent of
	Per Hour	Mfg.	Manufacturing	Per Hour	Mfg.	Manufacturing
	Dollars	Dollars		Dollars	Dollars	
1950	.884	1.65	53.6	.561	1.44	39.0
1951	.960	1.77	54.2	.625	1.56	40.1
1952	1.016	1.87	54.3	.661	1.65	40.1
1953	1.039	1.97	52.7	.672	1.74	38.6
1954	1.032	2.03	50.8	.661	1.78	37.1
1955	1.054	2.11	50.0	.675	1.86	36.3
1956	1.100	2.22	49.5	.705	1.95	36.2
1957	1.115	2.32	48.1	.728	2.05	35.5
1958	1.133	2.44	46.4	.757	2.11	35.9
1959	1.165	2.53	46.0	.798	2.19	36.4
1960	1.210	2.62	46.2	.818	2.26	36.2
1961	1.25	2.72	46.0	.834	2.32	35.9
1962	1.27	2.79	45.5	.856	2.39	35.8
1963	1.31	2.88	45.5	.880	2.46	35.8
1964	1.33	2.96	45.9	.904	2.53	35.7
1965	1.40	3.05	45.9	.951	2.61	36.4
1966	1.52	3.16	48.1	1.03	2.72	37.9
1967	1.59	3.29	48.3	1.12	2.83*	39.6

Source: USDA Farm Labor - January issues.

U.S. Dept. of Labor, B. L. Statistics - Bulletin No. 1370-4, pp. LX, LXI, Wash., 1967 (G.P.O.).

U.S. Dept. of Labor. "Manpower Report of the President." Transmitted to the Congress, April 1968.

U.S. Dept. of Labor. "Employment and Earnings Statistics for States and Areas, 1939-67." Bulletin No. 1370-5, issues August, 1968, p. 26.

*Preliminary unweighted average.

year depending upon crop conditions (Table 7). The trend in the total number of hired farm workers employed annually for the years 1950 to 1966 shows a very slight decline. The trend in the number of hired farm workers employed 25 days or more has been downward. The trend in the number of hired farm workers employed less than 25 days has been upward. One can only conclude from the above data that annual income to the average seasonal farm worker has not increased significantly during the past decade and a half because mechanization is reducing the amount of employment that is available to the worker as rapidly as wage rates are increased.

The Changing Framework

Fruit and vegetable production developed and expanded within a framework where: (1) seasonal labor, both domestic and foreign, could be drawn upon to meet the peak labor requirements; and (2) wages paid to farm workers were relatively low. The reservoirs of seasonal labor have included people who did not have the opportunity or desire for full-year employment. Some were marginal workers, some had limited alternative opportunities, and some were newly arrive immigrants anxious to get a start in the economy. Some, by following a well organized pattern of migration and having members of the family work, were able to realize a family income higher than if the head of the family were employed on a year-round basis elsewhere.

In general, there has been little continuing concern either by the employer or administrators in government regarding the welfare of the workers. Of course, many labor unions, social welfare groups, some government people, and some politicians were deeply concerned. However, during the decade of the 60's both government and society have become concerned about the poverty problem. For example, committees of both Houses of Congress and of many State Legislatures have held hearings and issued reports on migratory farm labor incomes and working conditions. One of the most recent reports [2] states:

Despite their vital role in modern agriculture, particularly in filling the crucial needs at harvest time, our migrant citizens have been grossly neglected by society. More often than not, in addition to especially low living standards, the influx of migrants to supplement the local labor force creates problems in areas of health, education, sanitation, and housing which the community is not equipped to meet.

. . . low wages, unemployment, lack of education, poor housing, malnutrition, disease, and lack of adequate medical and dental care tell only part of the story of the shocking degree of impoverishment of the migrant.

The limited employment and earnings of migratory farm workers were evident in the survey referred to previously, *The Hired Farm Working Force of 1966*. The distribution of employment and earnings of migratory workers was as follows:

<u>Number of Workers</u>	<u>Number of Days Worked (Farm and Nonfarm)</u>	<u>Farm and Nonfarm Wages Earned Per Year Per Worker</u>
76,000	Fewer than 25	\$ 863
114,000	25-74	1,033
73,000	75-149	1,784
87,000	150 Days or More	2,739

Little information is available on migratory workers who are able to earn reasonably good incomes. It is clear, however, that a relatively large proportion of migratory farm workers earn incomes that leave them in poverty. It is also clear that the extent of poverty in this group raises important social questions.

Government programs such as the War on Poverty are aimed at improving the incomes of low-income workers. The training of seasonal workers for higher income jobs will have a tendency to take workers out of agriculture. It seems evident that farmers who produce fruits and vegetables can expect in the decade or so ahead: (1) farm wage rates will increase substantially; (2) the supply of workers to perform seasonal labor will decrease; (3) housing and working conditions will have to improve; and (4) uncertainty about the availability of workers and wage rates will increase.

Alternatives

A 100-year era in which commercial fruit and vegetable producers depended upon new immigrants, migrant workers, and foreign contract workers to perform many of the peak seasonal farm labor tasks is seemingly coming to an end. The end of the era will require significant changes if consumers are to continue having an abundant supply of a large variety of fruits and vegetables at relatively low prices.

The alternatives available to the fruit and vegetable industry can be divided into four major groupings.

1. Develop technology that will greatly reduce or eliminate the need of hand labor.
2. Increase wages and improve working conditions to a point where annual incomes and social status of the seasonal farm worker will be equal to the incomes and status of nonfarm workers.
3. Diversify farming in the fruit and vegetable areas so as to create year-round or nearly year-round employment for farm workers.
4. Divide the present commercial fruit and vegetable farms into thousands of small family-plot operations so that the farmer and his family can do most of the work.

Of these only the first alternative offers a practical solution to the seasonal farm labor problem. All the other alternatives would result in rather substantial increases in the cost of food and would adversely affect a much larger number of people than it would help. Low income people are more burdened by higher food prices than middle and high income people.

In addition, an increase in the cost of producing fruits and vegetables would adversely affect the competitive position of the U.S. producers and reduce U.S. sales in foreign markets. This would encourage imports of fruits and vegetables into the U.S. domestic market. A reduction in the volume of fruits and vegetables produced and processed in the U.S. would affect those workers employed in industries associated with fruits and vegetables such as those that have jobs in canneries and other processing plants in the manufacture of containers and materials, in transportation, in selling, in financing, etc.

Mechanization and Social Problems

Mechanization of production and harvest of fruits and vegetables is not going to be simple and it won't occur without problems. Mechanization could actually make it more difficult to obtain seasonal labor than it is at present. For example, if research reduced the need for farm workers in some tasks without reducing peak requirements, there might not be enough days of employment in a community to attract the number of workers needed at peak. To avoid this problem, researchers must identify the crops and operations that contribute most heavily to seasonal peaks of employment in each producing area before undertaking full-scale labor elimination. A comprehensive research program could be formulated to develop new labor-saving technology that would reduce peak employment before full mechanization is undertaken.

The impact of farm mechanization will be felt in the increased need for skilled labor on the farm and a decrease in need for unskilled labor. It will stimulate the economy far from the farm, in the factories that make farm machinery, in the agencies that sell and service machines, and in the banking industry that finances the machines and their operation.

It may, however, have a high cost in human suffering if we do not recognize that it could greatly reduce employment opportunities for the unskilled workers. Experience has shown that unskilled workers seldom move up to the skilled jobs of operating equipment.

Community leaders and policy makers should recognize that mechanization of agriculture will probably reduce the number of workers employed in the production and harvest process. In those areas where mechanization might cause substantial unemployment among farm workers, public measures should be initiated to increase employment opportunities for those who are being displaced by machines. Without a unified effort on the part of businessmen, churchmen, labor unions, farm workers, farmers, and government officials, the mechanization of agriculture can bring tears and heartache to thousands of unskilled workers and their families who cannot by themselves solve their economic problem. Failure on the part of government and community leaders to resolve the problem in the rural areas will tend to force the unemployed farm worker to migrate to the large cities.

In the long run, a completely systematized, mechanized agricultural industry will benefit all of the people of the nation. It will provide an abundant supply of food at relatively lower consumer prices and increased incomes to those who remain in agriculture and in the associated industries.

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HORTICULTURAL AND ENGINEERING OUTLOOK OF FRUIT AND
VEGETABLE HARVESTING MECHANIZATION

INTRODUCTION

Carl W. Hall

The English novelist, John Galsworthy, said, "If you do not think about the future, you cannot have one." Likewise, we must look into the future and our projections must be based on present knowledge, trends, and anticipated developments. These must be considered from many viewpoints. The following four papers present the viewpoints of horticulturists, an engineer, and a processor.

Growers of fruits and vegetables no longer are concerned with producing products for their immediate surrounding community. The development of horticultural crops production near cities to serve primarily those cities, as originally practiced, has been only one stage in the development of the industry. Centers of production are developing to serve many areas of the country. With two-thirds of the population living east of the Mississippi River and two-thirds of the production west of the Mississippi River, it is obvious that methods of transportation and storage have greatly changed the industry.

National boundaries no longer offer the anticipated protection once available to the producer. Products move into and out of the United States on a large scale. As we look ahead we must consider the flow of products into and out of the United States not only to adjacent countries, not only within this hemisphere, but throughout the world. Many factors are involved in these international trade situations. Some of the factors will be discussed in these Proceedings. The product, climate, manpower, economics and mechanization aspects in particular will be discussed in more detail. With so many factors involved in the production, transportation, marketing, and processing of fruit and vegetable products, it is also obvious that many disciplines have been, must be, and will continue to be involved in the development of the fruit and vegetable industry.

In the production of fruits and vegetables the plant and its products are the main focal points for the horticulturists and the cooperating disciplines. Basically, the objective is to gain control over the growth and production of the plant: new plant varieties, new plants, the control of the environment where there be climatic conditions, control of competitive plants, eliminating plant predators, and manipulating the plant for maximizing production and for accommodating efficient harvesting. The horticulturist and the plant breeders have made tremendous strides in developing new varieties to compete or produce in the environment and to assist in efficient labor utilization during production and harvesting. With continued support the

advances in the fruit and vegetable industry will match those which we hear so much about in grain production throughout the world.

The agricultural engineer is called upon to work with the horticulturist in providing the environment and environmental control which will maximize production and maintain quality of the produced product. Also, as a result of the unavailability of labor with the proper training at the time, place, or price based on present and future situations, equipment will be demanded which will permit carrying out recommended cultural practices. These include efficient and uniform distribution of chemicals, application of fertilizer at the location and the quantity specified, and to harvest, handle and store the products of the fruit and vegetable industry. Nearly all of these operations require more precise equipment and controls than are now generally available.

A major contribution of the engineer is to reduce or eliminate the stoop labor or drudgery involved in all industries, and the fruit and vegetable industry is no exception. Mechanical aids are needed to assist labor; mechanical aids or machines are needed to make labor more productive or which will replace needed but often unavailable labor. A properly mechanized operation will provide employment on a year-round basis to people with proper skills and adequate training and provide them with enough income to live well in our society.

The engineer may be a part of the several developmental systems. One might be classed a vertical improvement where increased skills and less drudgery are required on the part of the workers in the industry. The other might be called a horizontal development where the engineer works with the horticulturist in the specifications for the plant and for the system of production. The engineer also works with the economist and sociologist in analyzing the impacts of these prospective changes.

There has been a 30% increase in production of fruits, vegetables and nuts during the past 20 years with decreasing labor. Without mechanization the industry could not have expanded to supply the demand, and more labor is needed in the future to produce the increasing production; but it appears this labor will not be available based on present pay and working conditions.

The 15 to 34% increase in yield during the past 20 years took place on a decrease in acreage, with improved varieties, more intense cultivation and less losses--much associated with horticultural-engineering aspects of the industry.

There are 100 kinds of fruits and vegetables produced in the United States but four-fifths of the production is represented by five leading vegetables and five leading fruits. The food habits of the consumer have much to do about which fruits and vegetables are in demand. Even though potato production is widely mechanized, potato consumption has decreased.

If the increase in demand for fruits and vegetables continues and rate of production does not increase accordingly, there will be a need to reclaim or put into cultivation acres for fruit and vegetables not now used. Considering the great advances being made in varieties and cultural practices it will be more economical and advantageous to increase production on present land rather than reclaiming large areas. Some reclamation will take place as a result of urban areas pushing agricultural areas out of production.

During the past 30 years there has been a rapid increase in the amount and percentage of fruits and vegetables going into the processed market as contrasted to the fresh market. Today (1968) 48% of all fruits and vegetables are produced for the fresh market and this amounts to 71% of the farm value of fruits and vegetables. There is not total agreement as to whether the trend will continue as it is. Some authorities feel that the trend away from fresh fruits and vegetables has nearly stopped. Some people feel there is a financial advantage to marketing fresh fruits and vegetables, but in order to obtain this advantage there must be a market. The markets are often not close to the areas of production, so that processing must become a means whereby these products can be transported, stored, and held until time of consumption.

Very few of the fruits and vegetables for the fresh market are harvested mechanically. It is believed that those crops now harvested mechanically for the processed market will be the crops first mechanized for the fresh market. The knowledge in varieties, the mechanical equipment available, and information pertaining to this equipment can be applied to provide products for the fresh market. Although many of us who are the buyers of today base our purchases on the "fresh" image, this may not be an important factor in merchandising fruits and vegetables in the future.

There has been an increase in canned and frozen vegetables and fruits. Dried products have decreased in importance. Fresh products have decreased in importance. The increase in fresh vegetable production and consumption in the future will probably be for salads and those other items not cooked before serving.

The processing industry has changed greatly and has accommodated mechanical harvesting on the one side and provided built-in services for the consumer on the other side. The possibility of doing many of the separations of products according to color, or other quality factors, in the field or orchard instead of the plant provides many opportunities. Thus, some of the products may go into the fresh market and others into the processing market from the same harvesting operation. Dirt, rejects, leaves, stems, etc. can remain in the field.

The consumer is the final element in the sequence of events after production of fruits, vegetables and nuts. The consumer will act or change

depending upon:

1. Economic conditions.
2. Nutrients and energy needed, desired, or demanded.
3. Education and training.
4. Background and personal preference.
5. Type of work.

The consumer may not know or care whether the product is grown in a particular area of the United States, whether or not the product is grown outside of the United States, or whether the product looks like the fresh product. We must be prepared to provide several alternatives depending upon the future situation so that our growers, producers, and processors continue to provide gainful employment, profits to stockholders, and nutritious products to our consuming population. The external factors may override the internal factors in our industry in determining changes and future developments.

THE PROSPECTS FOR FRUIT AND VEGETABLE MECHANIZATION:

HORTICULTURE OUTLOOK

John Carew

Any discussion of the future for fruit and vegetable production in the United States and of the prospects for their harvest mechanization must be made from an international point of view. Scientific, technological, economic, and political developments in other countries are beginning to have an appreciable impact on the horticulture industries of this nation. Their influence is likely to increase. The development of IR 8 rice in the Philippines and superior wheat varieties in Mexico will certainly alter the future export and production of these crops in our country. Similar far reaching advances in fruits and vegetables are always possible with corresponding influences in U.S. production.

Witness the shock waves sent around the world by little Taiwan with her expanded production of pineapple, asparagus, and mushrooms. To illustrate: the increase in Taiwan white asparagus exports from 30,000 cases in 1964 to 2.4 million cases in 1967 was accompanied by a decrease in California exports from 1.6 million cases to 387,000 cases over the same period. Harvested acreage in California during this same period declined approximately 15,000 acres.

In an attempt to duplicate the records of achievement at the rice and the wheat research institutes, similar establishments are now under construction in Colombia, Nigeria, Taiwan, and on a smaller scale in other developing countries. Inevitably, fruits and vegetables will receive the same massive attention as grain crops, and we can anticipate similar results.

Assuming that we can agree on the need for an international point of view, I should like to focus on developments in the field of horticulture that I believe will most likely influence the prospects for fruit and vegetable mechanization. I shall place emphasis on the plant science phases of horticulture with no implication that they are more important than engineering, insect and disease control, or economics.

The broad goal of horticulture technology and research is to gain greater control over the growth and development of plants and over the maturity, ripening, and senescence of plant products. Horticulturists approach this goal across several distinct but related fields of research: (1) by improving the plant--specifically through plant breeding and rootstock/scion combinations; (2) by controlling the plant environment--primarily light, temperature, nutrients, moisture, and the atmosphere of both the growing medium and the air; (3) by controlling plant competitors and predators--with emphasis on weeds, insects, diseases, and other pests; (4) by manipulating plant growth--either by means of cultural practices and/or the use of biologically active chemicals

A brief description of recent and current developments in each of these fields will serve as a basis for predicting their potential influence on harvest mechanization.

Improved Cultivars and Rootstock/scion Combinations

Without detracting from the recent accomplishments of rice and wheat breeding teams, we must recognize that our breeders of fruits and vegetables have done essentially as well, albeit with less publicity. The common pickle would be far less common without the development of disease resistant and gynoecious cultivars. Peach breeders have not only improved fruit quality but, by releasing cultivars of varying maturities, have doubled or tripled the length of the peach season in many production areas. Dwarfing rootstocks in combination with apple cultivars have made possible the size control of apple trees. Hundreds of other plant breeding accomplishments could be cited to illustrate the impact of plant improvement on crop characteristics and on the introduction of mechanical harvesting.

Looking to the future we can anticipate an accelerated development of new cultivars adapted to harvest mechanization; improved biochemical techniques will permit the early identification of genetic traits; seed production will be facilitated by the chemical induction of male sterility; advances in statistics and computer science will streamline evaluation procedures; and, breeders will make use of cooperators in both hemispheres to duplicate selection and evaluation environments.

We can also predict greater attention being paid to breeding for certain biological characteristics which have actually been the basis for most improvements in yield and quality; in other words, breeding for photosynthetic efficiency, amino acid content, fruit abscission, delayed senescence, etc.

Controlling Plant Environment

Many of the major problems of horticulture relate to our inability to regulate certain environmental factors that influence the growth and development of plants and pests that affect them. Unlike many "manufacturing" processes we have been unable to economically control temperature, light, and atmospheric conditions, which frequently cause wide fluctuations in yield and quality of our major fruits and vegetables.

Some progress has been made. We have learned to apply supplemental light at certain growth stages in tomato seedlings; synthetic soil mixes have improved the production of vegetable transplants; carbon dioxide is used commercially to prolong the storage life of apples and to increase the growth of glass house tomatoes and lettuce; ethylene stimulates the ripening of pears and bananas; mist irrigation will "air-condition" strawberry fields; plastic mulches not only control weeds and decrease moisture loss but also increase soil temperature; developments in plant nutrition have made nutrient deficiencies no longer a major cause for low yields and quality.

Nevertheless, a major portion of our fruit and vegetable production is still subject to injury from extremes of temperature. As we plan for the future, we can expect increasing interest in system of protected cultivation, under structures of glass or plastic, where temperature, humidity, light, nutrients, and pests will be controlled; we can look for the development of improved air temperature modification techniques using electricity, fuels, or water; and we can anticipate interesting atmosphere modifications for the transporting and holding of plant products.

Controlling Plant Competitors and Predators

The current controversy over pesticide residues does not detract from the excellent progress made by entomologists and plant pathologists in controlling insects and diseases. The abundance of blemish-free fruits and vegetables in the marketplace is a tribute to their achievements. In like manner, horticulture weed control specialists have developed a wide array of chemicals that permit virtually cultivation free production and that have eliminated the need for wide row spacing; for example, asparagus, carrots, sweet corn, apples, and cherries. We can assuredly look forward to the day when selective, non-toxic herbicides will be available for every fruit and vegetable and when unwanted plant competitors will no longer inhibit crop growth nor interfere with harvest mechanization.

Manipulating Plant Growth and Development

The recorded history of horticulture documents the ingenuity of fruit and vegetable growers in developing cultural practices to direct the growth of plants. Skill in grafting, pruning, and training were the major arts of horticulture and formed the basis for our modern technology. More recently, under the dual influences of labor unavailability and technological advances, these and other cultural practices have been modified or discontinued. The pruning saw is fast being replaced by set-level "mowing" of apples, pears, cherries, and blueberries. The staking or trellising of tomatoes and snap beans is dying out at the same time that fruit tree walls are coming in; both trends are aimed at facilitating harvest mechanization. A new look is being taken at the optimum plant population and spacing for each crop as we become freed of the constraints imposed by cultivation, pest control, or hand harvesting. Wide row spacings are giving way to markedly higher plant populations per unit area. Single harvests of dense plantings of tomatoes and pickles can achieve a concentration of maturity not possible with multiple harvests of more widely spaced plants. Cabbage, cauliflower, and tomatoes are being direct seeded in the field eliminating the plant growing and transplanting operations. Still in the exploratory stage is the practice of harvesting immature or unripe fruits and vegetables and completing their maturation or ripening under controlled conditions; we do it with pears, bananas, and tomatoes, why not for strawberries and other fruits?

Manipulating plant growth and development through biologically active chemicals is a relatively modern approach. The effects of growth regulators on plants have excited the imagination of scientists and growers alike. Literally thousands of chemicals have been evaluated on a wide range of crop species and weeds. To paraphrase a biblical quotation, "many are tested but few are chosen." For a high percentage of materials desirable effects are outweighed by problems of phytotoxicity, residues, unwanted growth influences, or cost.

Nevertheless, from this intensive research on growth regulators we have chemicals that will accelerate seed germination and the rooting of cuttings; control the shape of apple trees; induce or break dormancy in onions and potatoes; induce flower formation in young apple trees; promote the fruit set of grapes and figs; chemically thin apples, peaches, and pears; inhibit abscission in apples or induce it in cherries; retard the maturity of apples or hasten it for cherries; delay the ripening of pears and tomatoes and retard the senescence of broccoli; and increase the protein content in beans.

Most of the chemicals in use today will fade from our memory like this year's football stars; they will soon be replaced by more selective, less toxic materials still in the laboratory. But as fleeting as their glory may be, Alar, TIBA, Ethrel, simazine, maleic hydrazide and their chemical companions foretell a bright future for the use of biologically active materials in the control of plant growth and the adapting of crop production to harvest mechanization.

Conclusion

Many major changes in agricultural technology are more a result of external pressures than internal desires for change. To illustrate: numerous developments in fruit and vegetable marketing, packaging, and transportation are the result of dynamic changes in mass merchandising, specifically, the demands of chain stores, rather than a natural desire by growers to sell large volumes of uniformly graded and packaged products. Similarly, changes in food processing technology have dictated the adoption of many adjustments on those farms raising fruits and vegetables for canning and freezing. In my opinion, the rapidity of adoption of harvest mechanization is most closely tied to the availability of labor--either because labor prefers alternative employment (or unemployment) or because our government restricts its use.

In other words, I believe we horticulturists will really have less of an influence on the prospects for fruit and vegetable mechanization than will certain external, social, and economic forces over which few of us have control. And, may I repeat that many of these forces will originate outside the country. Look at the record: giving a major share of credit to the engineers, we now have extensive mechanical harvesting of cherries, plums, blueberries, cranberries, cling peaches, nut crops, sweet corn, pickling cucumbers, onions, peas, spinach, and tomatoes. We have made substantial progress in the development of mechanical harvesters for apples, grapes, strawberries, brambles,

citrus, broccoli, Brussels sprouts, cabbage, cauliflower, cucumbers, melons, lettuce, and peppers.

If the supply of labor to harvest this last list of crops were to be drastically reduced in the next few years, we could be mechanically harvesting them almost immediately. To do this, however, there would have to be a willingness by buyers and consumers to alter their standards of quality and modify their handling and processing procedures, and--if they wish to continue purchasing fresh fruits and vegetables--to pay a price commensurate with the increased costs of production.

No one needs mystic powers to predict that:

1. A larger proportion of our fruits and vegetables will be harvested mechanically.
2. Growers will increasingly substitute chemical, genetic, and equipment inputs for human labor.
3. A smaller proportion of fruits and vegetables will be consumed in the fresh or unprocessed state.
4. Areas of crop production in the United States will be determined more by climatic conditions than by nearness to market or availability of labor.
5. Buyers and/or processors as well as the consumers of fruits and vegetables will adjust to the influence of mechanization.

Advances in the science and technology of horticulture clearly have played a significant role in the development of harvest mechanization procedures. They will play an ever greater role if the development of both biological systems and engineering systems are closely coordinated. The importance of fruits and vegetables in our diets, from both a nutritional and an enjoyment point of view, dictates a continued strong research effort on the interrelated problems of production, harvesting, handling, and distribution. Our record of achievement in harvest mechanization is great and our potential for contribution is just as bright.

THE PROSPECTS FOR FRUIT AND VEGETABLE

MECHANIZATION: ENGINEERING OUTLOOK

Jordan H. Levin

Are Machines Needed?--Yes. Fruit and vegetable production is increasing and will continue to increase. At the same time, harvest labor has decreased to the point where all producing areas are now having difficulty in recruiting satisfactory help. The only practical long range answer to the labor problem is to develop mechanical aids and/or *machines* which will make the available labor more efficient or will replace needed but unavailable labor.

Can the Engineers Develop the Machines?--Yes. People have come to expect miracles from engineers. "The difficult we do today--the impossible takes a little longer." This is true. Engineering, and especially agricultural engineering, has come a long way in the past few years. Technology has advanced to where almost anything can be done. With instrumentation now available, we can see things we never could see. For example, with light transmittance equipment we can see inside apples, tomatoes, and other commodities. With present instrumentation we can feel things which we could not feel before. Strain gauges, electron microscopes, accelerometers, oscilloscopes, radioactive materials, LDTs and many other instruments and techniques have become standard tools for engineers. With modern computers, we can make calculations quickly and accurately. For instance, the multiplication of two 3-digit numbers can be made at the rate of 2 per minute with a pencil, 10 per minute with a desk calculator, and 100,000 per minute with a computer. A great many new materials are now available which can be used to satisfy almost any condition of weight, strength, abrasion resistance, corrosion resistance, etc. Whole new families of components are now available which make design more flexible and compact. These range from micro switches to fasteners and from light weight electric motors to complete hydraulic systems. Today's agricultural engineers have the know-how and the facilities to build practically any type of machine.

Do Engineers Have Complete Freedom in What They Develop?--No. Although the engineers can produce sophisticated machines which can perform almost any function, they must limit their development to harvesting machines and systems which enable the grower to not only get the job done but make a profit on his operation. If the grower makes a profit, it means that the system is efficient--and we must be efficient. The problem of feeding over 200 million Americans and the billions of people in the world is of utmost importance. We can grow only the crops which can be grown efficiently. Crops which cannot be mechanized effectively will have to be replaced by crops for which we can develop efficient machines. This means that the initial and operating

machine costs must be such that the per unit cost of harvesting will be competitive with our present or future cost of harvesting. Therefore, many techniques and designs cannot be used because they would result in too high a cost. Most of us take it for granted that we will have a man on the moon in 1969 or 1970. If the engineers on the moon project only had 3 to 4 million dollars per year to spend, instead of billions, we would not have a man on the moon for a long, long time. The engineers cannot divorce machine development from economics. However, agricultural engineers have always had to produce low cost machines and will find designs and principles which will result in economical equipment.

Do Engineers Need the Help of Others?--Yes. Engineers study the present varieties, present growing methods, and market system, then try to design harvesting machines for these conditions. Engineers also consider possible changes in shapes and forms of fruits and vegetables which might make it easier to develop machines. Changes in cultural and other production practices are also evaluated as to their effect on mechanization. The engineers, therefore, must be familiar with the horticultural phases of the problem and must work closely with the horticulturalist. It is not a question of which came first, the egg or the chicken. It is a question of deciding what changes in the production practices are needed and then, simultaneously, the engineer building the machines and the horticulturalist producing desirable changes. An example is the tomato harvester. Coby Lorenzen developed the principle of once-over tomato harvesting in the early 1950's. As he was working on equipment plant breeders began to develop varieties suitable for mechanical harvesting. The basic principles and components for the tomato harvester were quickly developed but it took several years to produce a sound, practical machine. Engineers at the University of Illinois developed the idea of stripping strawberries several years ago. Since then, engineers of various universities have been trying to develop machines while plant breeders, at the same time, have been trying to develop varieties suitable for this type of mechanical harvesting.

Will the Engineer Produce Machines for Harvesting Fruits and Vegetables?--Yes. A number of crops have already been mechanized, and experimental machines are being developed for practically all fruit and vegetable crops. When the need becomes great enough someone usually comes up with the answer--and the need for machines to harvest fruits and vegetables is great. Engineering is doing and creating something new. In the USDA fruit and vegetable harvesting group we always ask ourselves, "How can the operation be different so it is more efficient?" and then ask ourselves, "Is it worth doing?" If the answer is "yes" then we do it, for there is always a way.

The machines which are being built and which will be built in the future are not and will not be science fiction types but will be relatively

simple and practical. They will perform the simple tasks of cutting, lifting, twisting, shaking, sorting, etc. I do not predict we will have "super" machines which fly over the crop or move automatically through the fields with someone sitting in a central office pushing buttons for harvesting fruit and vegetables. I leave these predictions to others for I do not think such abstract thinking solves our present problem. What we need are practical machines which are imaginative, productive, easy to operate and trouble free. These machines will be part of an overall system which gets the job done at substantially reduced labor requirements and at equal and probably much lower costs than present ones. The systems may involve new crops, new cultivating, or preharvest practices, and may result in new methods of maintaining quality and new packaging and processing techniques. Therefore, other disciplines will be involved. Such systems have already been developed for some crops. Radishes is an example. They are planted, harvested, transported, packaged, sent to market, and reach the consumer never touched by human hands. Tart cherries is another example. They are removed from the tree, cooled, transported to the processing plant, destemmed, sorted, pitted and processed never touched by human hands.

Prospects for mechanizing fruit and vegetable harvesting are very good. Agricultural engineers have the know-how and the interest and will certainly do their part in mechanizing fruit and vegetable harvesting.

THE FUTURE WORLD OF FRUIT AND VEGETABLE MECHANIZATION

Carl W. Hall

The fruit and vegetable industry was originally characterized by areas of production close to consumption. The fruit and vegetable industries developed around the cities. People from the cities were available to work in the gardens and orchards. The products were moved into the cities and sold on an almost daily basis, depending upon the availability and perishability of the products. This same pattern exists in most of the world today.

In this country, as the cities grew and in many cases forced out the areas of production for fruits and vegetables, the areas of production have not been close to centers of population. In the United States two-thirds of the production of fruits and vegetables is west of the Mississippi River, while two-thirds of the consumers are east of the Mississippi River.

Associated with the urbanization of the United States have been:

1. Development of large areas of production.
2. Production areas away or remote from the consuming population.
3. Production areas not adjacent to manpower resources so that help often is not available when needed.
4. Industrialization of horticultural crop production has developed similar to but slower than industrialization of the cities.
5. Utilization of irrigation to control moisture in soil and/or air environment.
6. Purchase of fruits and vegetables is now in the hands of a very few people as contrasted to previously when practically everyone was a purchaser.
7. Increase in the consumption of processed fruits and vegetables.
8. Large quantities of products of uniform quality is demanded, not on a seasonal but on a year-round basis, by the consumer.

Thus, considerable changes have occurred in producing, transporting, handling, storing, processing, and marketing of fruits and vegetables. Involved throughout are the establishment of quality standards including grading, sorting, sizing, color evaluation, etc. In addition to these variables must also be considered the working, purchasing, and eating habits of the consuming public. Jobs with long hours involving much drudgery are not tolerated, almost regardless of the amount of pay. People will now spend much of their money for built-in services of food with their purchases. Many millions of women now work. The eating habits have shifted from high calorie to low calorie foods which has great implications on the consumption of fruits and vegetables.

Plant Blueprints

In the future we'll develop blueprints for particular plants as we now

develop blueprints for machines, devices, and processes. For example, the blueprint will specify the design requirements with the example given for upright fruits and vegetables somewhat like the following:

1. Upright, strong plants which will not lodge and be of a height for providing proper cultural practices and management.
2. A sturdy root system to support the plant and to provide the proper nutrients and moisture.
3. Leaves at an angle and size to absorb maximum sunlight.
4. A plant canopy to retain carbon dioxide.
5. Fruit placed at the top or outside ends of the supporting branches for easy harvest.
6. Fruit with a skin to withstand bruising and abrasions either from environmental conditions such as wind, rain and sleet, and from mechanical cultivation, harvest, and handling.
7. Fruit with a color and appearance with consumer appeal.
8. Fruit which will hang tightly on the plant until ripe, then remove easily without loss.
9. Fruit which can be stored for longer times.

From our present knowledge it would appear that we'd move to smaller fruits on the plants to obtain some of the fruit characteristics desired for mechanical harvesting and handling. Strawberries and tomatoes will become smaller in diameter and perhaps be used in different types of food servings than presently. We may not be so concerned with maintaining the shape and appearance of the fruit as presently constituted. For example, it isn't necessary to think in terms of clusters of grapes, but single grapes may become common. If this happens the possibility of substituting cherries chemically treated for grapes to obtain blue, red, or green appearance without seeds may develop.

Field Physical Environment

The plant characteristics and the related cultural practices have much to do with respect to the area available to each plant in its root zone, the spacing of plants in the row and the spacing of rows, the control of plant competitors, the size of plant and size of fruit or vegetable produced by the plant. Entire changes in cultural practices may be required in order to utilize or enhance mechanization. The mechanization will involve placement of the seed, metering and placement of fertilizer and other plant nutrients, placement of weed control chemicals or mechanical cultivation for removal of the undesirable plants, and removal of the products from the plants.

Plants may need to be protected from freezing either in the early spring or late fall. Water spray provides one means of providing heat to the plant thereby protecting the plant, at least for short intervals, for temperatures in the twenties. Plastic covers which go over the row provides

another means of temperature control. Or, a plastic dome may be placed over large areas in which temperature, relative humidity, light, and other variables may be controlled. Plastics can be selected in such a manner to provide transmission of certain wavelengths and filtering of others. The plastic permits short wavelengths to go through after which the energy turns to long wavelengths; thus retaining heat and energy under the plastic canopy.

Certain plants may respond favorably to a shot of light at night. Particular wavelengths of radiation may encourage flower setting or some other desirable phenomena for increasing production.

Additional attention must be given to maintaining a desirable seed bed and root bed for the plant. With excessive travel of workers and mechanical equipment over the land, soil compaction may develop in some soils. Soil compaction may be reduced by: (1) low pressure large diameter tires and wheels for moving over soils; (2) straddle highways over the orchards and fields with paved paths for the power units and equipment; (3) use of a hovercraft which moves over the field or orchard for field operations.

Although progress to date on breeding plants has provided a freezing point only 1/2 to 1°F. lower than freezing, there is a possibility that new varieties or new products may be developed which will withstand low temperatures.

Chemical Relationships

Chemicals will continue to play a major role in production. Specific chemicals with properties for specific tasks without toxic or undesirable effects on the products or other members of the environment will continue to be developed. Chemicals will play a role in: (1) fertilization; (2) coated and treated seeds for control of disease, for timing of germination, for desirable growth relationships, and for production of seedless fruits; (3) plant response to get shape, growth, and development of particular elements of the plant, (chemical pruning); (4) stomata closing to conserve moisture; (5) weed control and response; (6) abscission chemicals either to strengthen the attachment during growing or before harvest, to weaken the attachment for harvest, or to remove leaves before harvest; (7) reduce respiration of the product; (8) control of diseases, insects and microorganisms which would otherwise reduce yield; (9) coloring, whitening, or maturing of the product in storage; and (10) toughening of skin so that the product will withstand handling.

Field and Orchard Operations

Land preparation, planting, cultivating, harvest, and handling will continue to be mechanized and to an even greater extent. These operations through cultivating are now well mechanized. The mechanization of harvest and handling is developing rapidly. It is predicted that within ten years,

nearly 90 to 100% of the fruit and vegetable crops will be mechanically harvested. Those crops which are now mechanically harvested and used primarily for the processing industry will be the first to have improved methods whereby the products will be suitable for the fresh market.

Regardless of the operation, precision will be a key word; seed, fertilizer, and chemicals will be metered and placed at a high speed at the proper location in the soil. This is necessary to economically utilize the various inputs for fruit and vegetable production. The amount of transplanting will be reduced. Direct seeding with new varieties and new cultural practices will be used. No-row or close-row spacing will be utilized. The amount of cultivation with its affect on additional moisture losses will be reduced or eliminated. Chemicals will take the place of mechanical cultivation. These chemicals must be applied at the proper time and place, and the quantity applied with precision. New equipment will be required.

Today most harvesters have been developed for specific crops. In the future there will be more machines or combines developed which will handle several crops--perhaps a universal vegetable combine. Likewise, a universal fruit combine with a wide range of adjustments may be used in the fruit industry. We have shaking or vibrating equipment for the cherries, blueberries, coffee, and nuts; and as we learn how to handle all of these products, a universal shaker can be developed for a wide variety of crops. With the harvesters we will pre-sense the product for color, density, and quality, and leave the product if it does not meet the standards. The timing of the harvest operation as related to the environment and cultural practices will be even more critical than today. Cracking of cherries, tomatoes, and similar products needs to be reduced or eliminated. We will attempt to find ways to remove the products without touching them. The use of air or radiation signals to search, find, and remove the fruit in place of handling the fruit or handling the tree on which the fruit is placed will be attempted. There will be more decision making in the picking of the fruit and in separation of the fruit in the field rather than at the processing plant. A tree-wall will provide a means of utilizing labor more uniformly throughout the year, and perhaps a more uniform cultural practice for utilization of the harvester.

Man-Machine Relationships

Agricultural labor discussions involve the term "hand labor". There are many gradations of hand labor. All hand labor is not equivalent. It is necessary that tasks in agriculture be improved and be made more comparable with similar tasks in industry. Otherwise, the labor cannot be attracted to these operations. Machines are necessary to reduce the drudgery on mankind which would otherwise take place. Machines can be used to increase the safety of the workers, particularly from the standpoint of undesirable

working conditions. Better working conditions can be provided in terms of temperature, relative humidity, light, dust, air movement, chemicals in air, etc. Machines must be designed considering the man-machine relationship so as to provide excellent working conditions. Although not used at present, but available on experimental basis, the hovercraft provides an example. The hovercraft may be used for fertilization, spraying, and inspection by the pilot, and offers the following advantages: (1) less drift of chemicals; (2) no soil compaction; (3) more complete coverage of the trees; and (4) the workers are out of the chemical environment.

More cabs on tractors and on self-propelled units will be used. These cabs will protect the workers from injury, from trees, from roll-over of the unit, and at the same time will incorporate features to provide air-conditioning and filtered air for the operator. Controls and mechanical aids will be provided so that older workers can continue to perform and earn their livelihood. All of these examples point to the necessity of a person with more training than for previous occupations. At the same time, there will be more uniform labor needs throughout the year. Thus, a more stable job will result with benefit to the worker, grower, processor, and community. Growers and processors, individually or through their organizations, or with government help and support, will need to provide training to workers to assist them in qualifying for these new jobs.

Marketing

The transportation, grading, sorting, processing, packaging, and merchandising of fruits and vegetables must undergo a radical change. The drudgery and expense of handling from the field to the family is presently excessive as compared to other costs. Product "damage" must be defined. Other terminology is needed. Product "damage" should be defined in terms of the final product. A cut on a fruit, if handled quickly under proper environmental conditions may have no effect on the product. On the other hand, certain distinct desirable flaws may be enhanced. The possibility of piggy-back movement of trucks from the field or orchards from centers of production to areas of consumption or processing will undoubtedly occur using airlines for perishable products as we are now using the railroads for the industrial products. There are national and international implications involving export and import of fruits and vegetables.

A complete study involving the systemization of computerization from field to family is needed. This will involve not only present products, but new products or change in products based upon requirements for efficient production and mechanical harvesting. Storages have improved greatly over the past ten years. Controlled atmosphere storage, use of radiation, and application of chemicals are procedures which have been adopted in a few industries. Many new innovations will become available for other products.

These innovations will provide a marked change in the movement of products from the field to the family. Many of the products of tomorrow may bear no resemblance, even for fresh products, to our products of today. Certain treatments may become acceptable or might actually improve the product, but in many cases may not improve its relationship to the fresh quality, though improve its relationship to the consuming public. As fewer and fewer people have a direct connection with agriculture production, there will be less demand and need to provide products which the consumer remembers as having a certain form, shape, or color.

The consumer will make many of the final decisions with respect to the growth and development of the industry as a whole or of segments of the industry. The consumer will make these decisions on the basis of the choices offered. If not enough choices are offered the industry will decline; if sufficient choices are made, those items which are most attractive will grow and help the industry expand. In the final analysis the consumer is the "boss". The consumer will determine to a large extent whether the consumption of any or several products per capita will increase or decrease. The products must compete in the marketplace. The competition will be based on many factors, several of which have not been mentioned or yet conceived. The consumer may shop by catalog or from her kitchen after viewing various products on the television screen and as the result of two-way conversation with the seller. More likely, the consumer will purchase more ready-for-the-table products which have been partially or fully processed. Also the consumer will purchase more of the fruit and vegetables and other foods through institutional organizations. These institutional organizations will demand a large quantity of uniform quality product.

Technological and Economic Factors

The following are significant technological and economic factors which will influence greatly the development of the next decade: (1) nearly universal use of the computer in research, business, and marketing which will be used in comparing various man-machine production relationships from the production to the consumer of fruits, vegetables, and nuts operations; (2) a continued explosive growth of knowledge with information in the fruit and vegetable industry to be used by others and information in other fields to be applied to the fruit and vegetable industry--synergistic effects will abound; (3) a more educated society with more affluence and thus greater independence will be involved in the consumption of the products of the fruit, vegetable, and nut industry; (4) there will be new uses for present products, new processes, and combinations of products used in new industries; thus, treated cherries may substitute for the grape industry, or the grape may substitute for the olive, and small tomatoes for cherries, etc.; (5) there will be additional means of and more rapid communications; (6) more

rapid transportation of our products under controlled environmental conditions; (7) greater mobility of population whether the unskilled or skilled worker, the grower, the processor, or the consumer; (8) greater concern for society as a whole, in which segments of the society which gained from an advance will put part of their gain into the disadvantaged segments of the system of society. Concern for the worker might include food, safety, environmental pollution of air, water, waste and soil, housing and quality factors of our living; (9) greater involvement of the government at all levels will influence labor, consumer, producer and processor.

Looking Ahead--Manpower Relationships

As we look ahead we must consider the following: In an expanding national economy there will continue to be a pull of workers from agriculture to other industries--usually urban based unless jobs can be more attractive from the standpoint of working conditions and year-round salary. There will be an increase in wages in agriculture but probably not equal to the wages in industry nor with as good working conditions as found in industry. Additional benefits in the way of workmans compensation, occupational hazard insurance, etc., will be provided. Organization will be a part of workers of agriculture in the future. The employers will need to provide additional services such as medical, school, improved housing, recreational opportunities, better working conditions, and increased pay. There is a need to reduce the drudgery of farming operations. If the increase in pay and services becomes too great, but possibly still at a level below urban industry wages, United States produced products will be replaced by foreign imports which if excessive would be a great disadvantage to workers, growers, processors, and related United States groups. Entire industries (like the mushroom industry) might disappear, perhaps preceded by internal shifts in centers of production in the United States because of a variance in state laws. At some stage in the process, where there is a lack of availability of workers for the conditions provided, growers and processors will press for increased mechanization for the commodity involved. The interrelationships of workers for two or more crops in one geographical area must be considered. If one of these crops is forced to become mechanized, the other must follow. Mechanization will assist in industry and the economy of a nation as a whole to get a job done. If workers are not available, which is often the case for a short period of time, such as harvesting, mechanization will be needed to maintain an economical production in a competitive economy. To operate the more sophisticated equipment, to follow the more involved practices, to utilize the more complicated and interrelated practices involving cultural practices, use of chemicals, machines and mechanisms, genetics, etc., workers will need more training. Workers undoubtedly have the intelligence to do these tasks but will need special training. Through

resulting increased productivity they will receive more pay and be even more mobile in the labor market. The additional training will provide for increasing the skills of workers. Many may move into industry jobs, serving a diffused rural industry or into the urban industry. These developments and the trends which will inevitably follow probably justifies government assistance in training and educational programs. We can anticipate an upward movement in the skill development and the related wage in the marketplace where agriculture serves as the first rung on the ladder. One of our jobs is to help provide, as we have many times in the past, training and education for the workers for their improvement and the benefit of society.

Summary

It is a necessary but not sufficient condition to build or have basic information to build harvesters for mechanization of many fruit, vegetable and nut products. The knowledge and information must be available when the need is present and the industry demands mechanical harvesters. The major part of the production of fruit and vegetables, which is not mechanized, is that of harvesting and handling. Other aspects of production--varieties, chemicals, cultural practices, environmental conditions, manpower, cost, skill, and economics are all very important. But it must be emphasized that we look at the whole system from production to consumption considering not only those factors internal to the industry but external as well. The international situation plays a major role in considering future developments. In fact, the external factors over which we have little control may have greater influence on the future developments in the fruit and vegetable industry, particularly mechanization, than the internal factors over which we have some control.

FRUIT AND VEGETABLE HARVEST MECHANIZATION Manpower Implications

B. F. CARGILL and G. E. ROSSMILLER, Editors

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PREFACE

This is the second in a series of three publications emanating from a nationwide project on the Manpower Implications of Mechanization in Fruit and Vegetable Harvesting. The project, designed in three phases, has the following general objectives:

- I. To present technological information on all aspects of fruit and vegetable harvesting.
- II. To assess the implications fruit and vegetable mechanization will have on manpower, the industry, the consumer, and the public.
- III. To assimilate and analyze material presented in fulfillment of the first two objectives and to present conclusions and recommendations dealing with the nature and priority of policies, programs, and research.

Each of the above objectives are dealt with in the respective project phase and culminate with the appropriate publication as follows:

Fruit and Vegetable Harvest Mechanization, Technological Implications. Rural Manpower Center Report No. 16.

Fruit and Vegetable Harvest Mechanization, Manpower Implications. Rural Manpower Center Report No. 17.

Fruit and Vegetable Harvest Mechanization, Policy Implications. Rural Manpower Center Report No. 18.

The editors wish to acknowledge the U.S. Department of Labor for financial support, and the Rural Manpower Center, Departments of Agricultural Engineering and Agricultural Economics, all of Michigan State University, for providing personnel and services for the project. The views expressed by the authors contributing to this publication do not necessarily reflect the viewpoint or policy of the above named institutions.

The editors also wish to express their sincere appreciation to Daniel Sturt, Director, Rural Manpower Center, for his council and guidance.

The basis for this publication was a Colloquium on the Manpower Implications of Mechanization in the Fruit and Vegetable Industry held in July, 1969, at Michigan State University. At this Colloquium a highly interdisciplinary group composed of agricultural economists, rural sociologists, agricultural engineers, horticulturists, manpower specialists, and industry and labor representatives presented the papers contained in this volume.

To provide continuity between Phase I, the technology phase, and Phase II, the manpower phase, a Task Force on Technology was established. This Task Force met and presented papers in Phase I and II. To provide similar continuity between Phase II and III a Task Force on Manpower was established. This Task Force on Manpower met for the first time during the Manpower Colloquium and will be instrumental in assessing the Colloquium and extending the evaluation

of Phase II into Phase III, the policy phase. The Task Force on Manpower includes Nicolaas Luykx, Robert McElroy, James Nix, Daniel Sturt and Maurice Voland.

To our old friends who worked with us during Phase I and II and our new friends who joined us at Phase II, we wish to express our appreciation. It has been a distinct pleasure and privilege to work with the well-rounded, knowledgeable and interested group of individuals who contributed to the success of this project.

Michigan State University
December, 1969

B. F. Cargill
G. E. Rossmiller

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CHAPTER I

INTRODUCTION

G. E. Rossmiller

The authors of the papers in Volume I, *Fruit and Vegetable Harvest Mechanization, Technological Implications*, leave little doubt that the fruit and vegetable industry will be well on its way toward mechanical harvest of all but a very few specific commodities by 1975. Shortly thereafter, it appears that many of those crops which are not mechanized will no longer be grown commercially in the United States.

This technological revolution in the fruit and vegetable industry is a part of the larger phenomenon pervading all of U.S. agriculture, particularly during the past three decades. The result has yielded an agricultural sector more productive than any other in history with today's farmer producing enough food and fiber for 42.5 persons. It has also contributed to a loss of 1.2 million farms and a decrease of 2.8 million farm workers in U.S. agriculture during the past decade.

Some would contend that if this is true it must be proper and just, because the rules of the economic system will have been followed as they ultimately must be followed. They would contend that technological innovation means progress, and progress is a most important goal to be achieved.

But others hesitate and wonder if the blind pursuit of progress through the most rapid possible technological advance without a sensitivity to its multidimensional consequences is really in the best interest of society. Is it really progress after all?

Changes in the economic organization and structure of American agriculture have resulted in low returns for both human and physical resources and a relatively low level of living for many rural residents. The dwindling rural population, both absolutely and relatively, has left those who remain with a much reduced base of political power. The absolute population decline also has an adverse effect upon the per capita cost of public services, while at the same time it erodes the tax base for providing them. Unless new opportunities are developed the rural communities supporting agriculture stagnate and wither.

Farm workers who attempt to remain in agriculture compete for fewer and fewer jobs. And the jobs which are left on the farms require higher skill levels for operating and maintaining the sophisticated mechanical means of production on today's farms. Skill level requirements in the future will be even higher.

But for those who leave agriculture and the rural areas the road many times is no less rocky. Many of those who migrate to the city find they do not have the training and skills necessary to hold a job in an industrialized economy. Thus, they trade rural unemployment for urban unemployment and lend credence to the oft made charge that rural America is the spawning place for the unrest and violence in urban America.

It would be naive and irresponsible to advocate a moratorium or a choking off of the tap of technological advance. It is equally as irresponsible to ignore the consequences--including the unfavorable ones--of that technological advance which our research and development institutions both public and private are capable of producing. We are hopefully at an era in our history when social and economic justice and equality, freedom, and stability have become equally as important as efficiency and progress among our societal goals. The problem becomes one of achieving orderly and equitable social and human adjustment to the conditions created by technological advance.

What are the human consequences of technological change in the fruit and vegetable industry? What kinds of social adjustments are needed to counteract these consequences? What actions and what kinds of institutions and programs are necessary to insure that these social adjustments are carried out? In their broadest sense, what are the manpower implications of fruit and vegetable harvest mechanization? This is the subject to which this volume turns its attention.

Chapter II, "Technology in Perspective," summarizes the detailed reporting of the state of the arts and future prospects in mechanical harvesting in the fruit and vegetable industry. The papers in this chapter draw heavily from the material presented by nationally recognized agricultural engineers and horticulturists and reported in Volume I of this series, *Fruit and Vegetable Harvest Mechanization, Technological Implications*. The present state of the arts in horticultural technology is reported separately for vegetable production and fruit production followed by a look toward the horticultural prospects for the future. The same format is followed for the agricultural engineering aspects, the state of the arts, and the future prospects in the latter part of Chapter II.

Chapter III, "The Economics of It All," details the process of industrialization in agriculture with special reference to the fruit and vegetable industry. It goes on to specify the supply, demand, and input level situation in the fruit and vegetable sector. The conditions leading toward substitution of capital for labor are discussed, and the international relationships in both production and consumption are detailed. This chapter closes with a report on research done on a sample of Michigan fruit farms concerning the relationship of costs, returns, size, and the input mix.

Chapter IV, "The Manpower Dimension," describes the manpower related problems created in part by advancing technology and mechanization. It also discusses the structure and operation of the labor market, the factors important in labor mobility, and the changing scene related to labor skills in the agricultural work force.

Chapter V, "Politics, People, and Policy," presents the social and political considerations important in any discussion of problems surrounding

agricultural manpower. It includes manpower situation viewpoints by a union organizer and a food processor. Also included are discussions of the conditions under which the migrant worker toils and a more general discussion of the changing rural scene with respect to the social structure and institutions. The political implications are drawn and present and prospective manpower policies and programs are discussed.

Thus this volume attempts to present interesting observations on acute problems and some new ideas on how to cope with them. Hopefully it will stimulate additional interest, research, and policy development in the important, complex, and problem laden area of rural manpower.

LABOR OR CAPITAL - THE ROAD AHEAD

Velmar W. Davis

The future technologies in the production of fruits and vegetables described by Hall and Carew may seem unattainable. But, when we consider the accomplishments in space and medicine, future farm possibilities seem well within reach and merely a matter of time, effort, and economics. There is the desire of farmers to maximize profits. There is also a profit motive on the part of the industries that develop, manufacture, and distribute the inputs associated with these technologies. The desires of farm workers will also influence the development and adoption of technology to the extent that they may choose between working on the farm, for nonfarm industries, or not to work at all. I would be remiss if I did not recognize the significant contribution of Federal and State research and extension services.

My purpose is to present the economic implications of future horticultural and engineering technology in the production of fruits and vegetables with emphasis on mechanization. These implications and relationships for manpower, the grower, and the consumer are discussed in a framework of economic principles or concepts. Static economic theory provides a simplified view of a complex set of relationships. By looking at the real world through the selective lenses of theory, we are often able to recognize relationships that are obscured by the flow of unsorted details.

The discussion that follows relies mainly on the concepts of capital-labor substitution and supply and demand. Finally, the demand for labor in the production of fruits and vegetables is projected for 1975.

Capital-Labor Substitution

Under the concept of capital-labor substitution, I will discuss three related topics: (1) potential for capital-labor substitution; (2) trends in prices and consumption of inputs; and (3) capital-labor substitution in the production of fruits and vegetables as viewed by the farmer.

Potential for Capital-Labor Substitution

We are primarily concerned with fruits and vegetables, but it is useful to examine the capital-labor substitution potential of these two major crop categories along with that of other major crops and livestock. By looking back for a moment at the characteristics and progress in mechanization of other commodities, I believe that we can gain some perspective of what the future may hold for fruits and vegetables.

In examining the potential for capital-labor substitution, it is helpful to divide farm production into two broad categories: (1) those crops for which there is substitution of machines for machines, and (2) those crops for which there is substitution of machines for hand labor.

For the first category of products, technology is now available which permits nearly all functions to be done by machine. Labor productivity is already high. Future labor substitution possibilities and improvements in labor productivity will consist of substituting larger machines for smaller ones or for substituting chemical or biological forms of inputs for mechanical forms. Included here are the grains, hay, soybeans, cotton, and potatoes. Peas, snap beans, corn, and tomatoes for processing also come under this category. Livestock production is rapidly coming under the same heading. Technology in the form of materials-handling equipment and housing is available, or is becoming available, to permit substitution of capital for labor.

The second type of production includes fruits, fresh vegetables, nuts, and many specialty crops. At present levels of technology, machine methods are substituting for hand methods rather than larger, more efficient machines for smaller machines. For some jobs mechanization possibilities are currently limited. Further mechanization depends upon development of machines that are both technically and economically feasible along with the development of varieties and cultural practices better adapted to machine operations.

Trends in Prices and Consumption of Inputs

Technology changes the productivity of farm inputs and coupled with changes in their prices cause the economic relationships to change. The aggregate substitution of capital for labor--machinery for labor--can be illustrated by examining the trends in prices and consumption of these two inputs.

First, let us examine prices of labor and machinery (Fig. 1 and Appendix Table 1). The indexes of prices of the two inputs are moving in the same direction, but the rate of price increase for labor is about 50% faster than that for farm machinery. This price relationship has provided the economic environment to substitute machinery as well as other inputs for labor.

The effect of substitution is clearly shown by the trend in quantities of labor, machinery, and other inputs used (Fig. 2 and Appendix Table 2). Since 1950 labor has declined more than one-half while inputs of power and machinery have increased more than one-third. With a declining labor base and roughly a constant land base, we have substituted farm machinery, fertilizer, pesticides, and many off-farm services to obtain an increasing total farm production. Since 1950 total production has increased 42% while total inputs have increased only 11% (Fig. 3 and Appendix Table 3).

We have looked at some indicators of capital-labor substitution in the production of all farm products as a group. However, I am certain that if the data were available for fruits and vegetables over this period of time we would find that the capital-labor substitution has lagged. This is particularly true for fresh vegetables and fruits and nuts. This lag has been caused by a number of factors including: (1) the natural characteristics of the crops--a number of which are not amenable to mechanization; and (2) the availability of

PRICES OF SELECTED FARM INPUTS

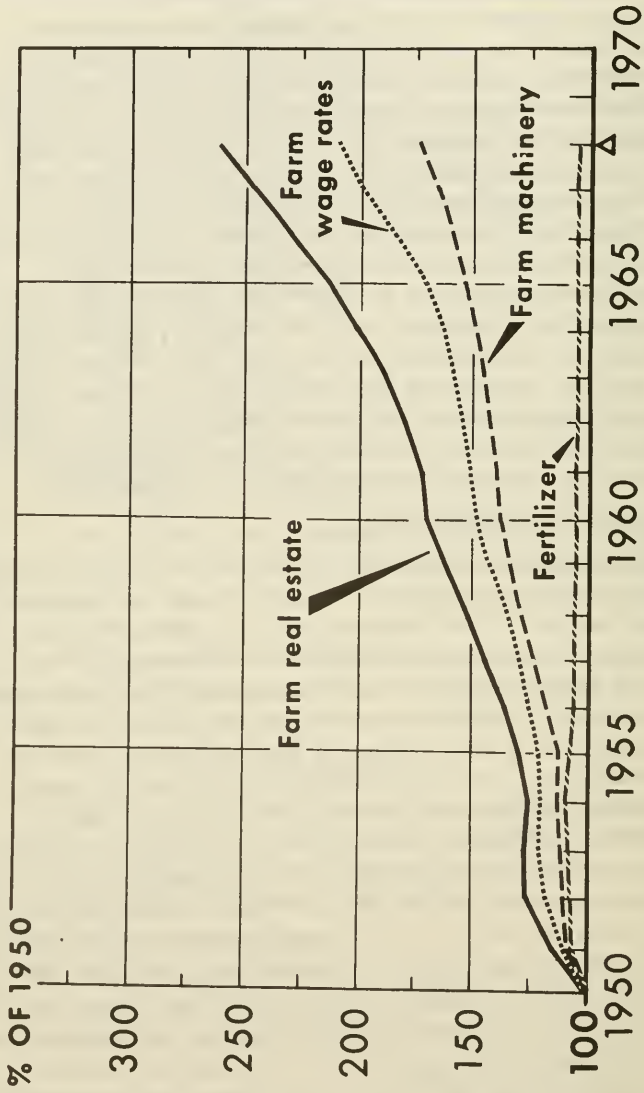
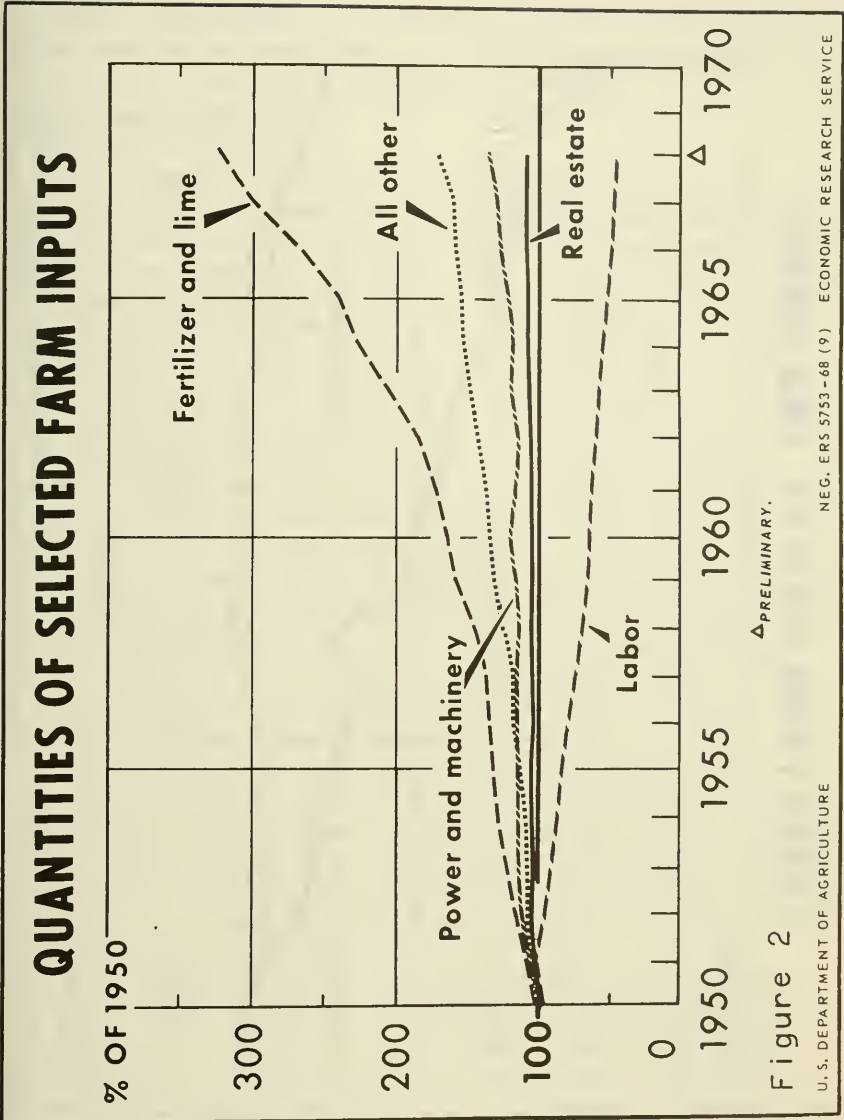


Figure 1

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NEG. ERS 3995-68 (9) ECONOMIC RESEARCH SERVICE



TOTAL FARM OUTPUT AND INPUTS

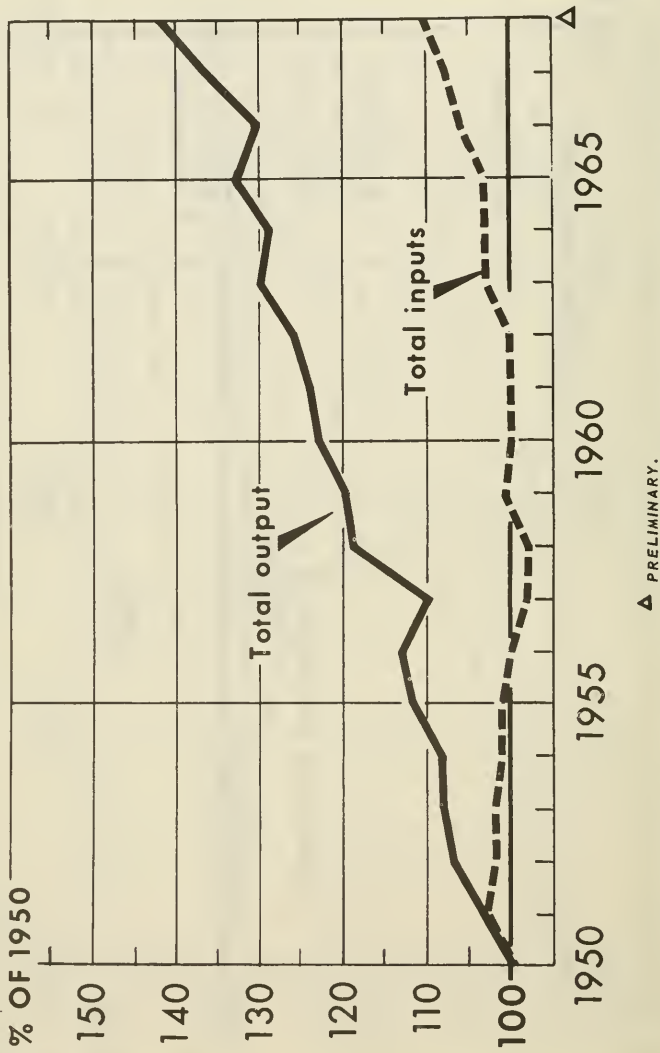


Figure 3

U. S. DEPARTMENT OF AGRICULTURE

NEG. ERS 3994-68 (9) ECONOMIC RESEARCH SERVICE

an adequate supply of labor at a price that encouraged the use of substantial quantities of hand and stoop labor. *The machine-labor cost relationships have not provided the incentive to mechanize many of these crops.*

Capital-Labor Substitution as
Viewed by the Farmer [3]

It is technically feasible to produce a commodity with a variety of combinations of inputs. However, the lowest cost combinations depend upon the relative prices of the inputs and the rates at which they can be substituted for one another in the production process. The price relationships may vary considerably depending on the size and type of farm. For example, labor costs and machine costs are quite different per unit of production on a small vegetable farm where all labor is furnished by the family versus one which relies fully on regular and seasonal hired labor. Larger farm units usually have an advantage in more efficient use of inputs and lower costs per unit purchased.

The substitution of capital for labor is, or should be, an economic decision by the farmer. For illustration, let us examine the alternatives faced by a potato farmer under different levels of production and capital-labor ratios. Here we are using capital as a summary category for all types of harvesting equipment. Several techniques exist on a potato farm to harvest a specified acreage or volume of potatoes. Each technique is represented by a distinct combination of machine capital and labor. For example, potatoes may be harvested by: (1) a 2-row harvester with X number of workers; (2) a 1-row harvester with Y number of workers; and (3) a 2-row digger with potatoes picked up by hand and Z number of workers.

Within the limits of potato acreage and output on a single farm, machine capital and labor can be substituted for one another largely in discrete jumps. Such inflexibility means that possible resource combinations are not numerous enough to form a smooth continuous isoproduct curve but consist of a few points as represented by the contour GHI (Figure 4). The existence of such relationships facilitates farmers' decisions because the number of alternative possibilities tends to be limited.

According to the principle of resource substitution, optimum combination for given conditions can only be obtained by equating the marginal rate of substitution to the inverse ratio of the input prices. The change in capital divided by the change in labor inputs should equal the price of labor inputs divided by the price of capital ($\Delta C/\Delta L = P_L/P_C$) (Figure 4). Thus, maximizing net farm returns includes as a basic step the accomplishment of the least cost combination of resources.

The slope of an isoproduct curve at any point represents the marginal rate of substitution between the two inputs. Under price ratios indicated by lines AD, BE, and CF, minimum costs are indicated by tangency of the isoproduct and isocost lines at points I, H_1 , I_1 , and G_2 . Points at H_1 and I_1 are equally acceptable as minimum cost techniques for the 125 acres of potatoes.

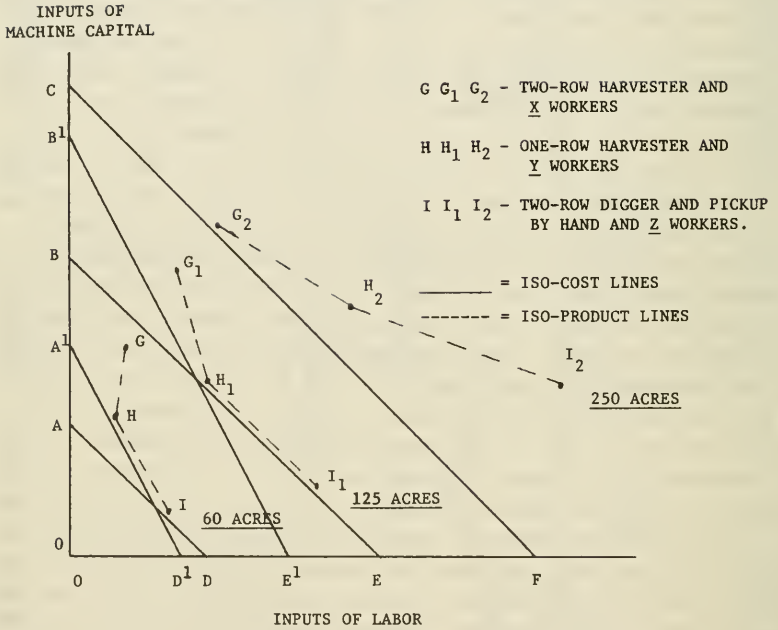


FIG. 4.--HYPOTHETICAL LINEAR ISO-PRODUCT AND ISO-COST CONTOURS ILLUSTRATING MACHINE CAPITAL AND LABOR SUBSTITUTION FOR POTATO HARVESTING

The choice of the least-cost alternative is directly related to the size of enterprise. This is because machines have high overhead cost while labor-using techniques do not. Under price ratios indicated by lines AD, BE, and CF, the 2-row harvester is the most economical method of harvesting at the 250 acre level while a 2-row digger with potatoes picked up by hand is the least-cost practice for the small farm at 60 acres (Figure 4).

A nonproportional change in the input prices will change the slope or actual cost line and thus change the choice of least-cost technique. If we assume that wages increase and that machinery costs do not increase proportionately, new isocost lines might be indicated by A' D' and B' E'. Such a condition would cause a shift in the least-cost position and change the choice of techniques. When such a change occurs in the cost of inputs, the optimum combination for various levels of output will rotate toward the input that has become least expensive and in this case toward capital. The change in location is the combined influence of both substitution and scale factors.

It should be noted that the input-input relationship illustrated applies to the initial choice of the production or harvesting technique (Figure 4). At this point the farmer is concerned with both fixed and operating costs. However, after he has adopted a particular production technique, he is concerned in the short run only with operating costs, and thus wage rates would have to increase considerably to force him to shift to a more capital-intensive technique. This has the same effect as rotating the isocost line toward labor and accounts for some of the lag in adoption of mechanized practices. It may not be economical to make the change until the older model equipment becomes obsolete or has been substantially depreciated.

Supply and Demand

No one concept is adequate to insure complete understanding of the economic relationships involved in farm production. The substitution of capital for labor is probably the most commonly used concept when discussing new technologies and in particular, mechanization technology. However, the concepts of supply and demand as applied to both farm inputs and output can also be useful in explaining some of the past and in depicting some of the future relationships in the production of fruits and vegetables.

First, I will discuss some of the relevant propositions concerned with the supply and demand of farm inputs with emphasis on labor and machinery. Second, I will try to show the implications of higher labor costs and subsequent mechanization on the supply (farmers' cost of production) and the demand for fruits and vegetables.

Supply of Farm Inputs [2]

The supply of farm inputs such as labor and machinery refers to the relationship between the prices of these inputs and the *quantities* offered

for sale at each *hypothetical price*. For most farm inputs the supply-price-quantity relationship is usually a direct relationship in which a greater quantity of a particular kind of input is called forth at a high price than at a low price. The quantity of inputs that will be supplied at various increments of price is a function of the elasticity of supply.* If we are concerned with an elastic supply curve such as S^1S^1 (Figure 5), an increase in price from OA to OB will bring forth a more than proportionate increase in quantity, from OC to OD. In contrast, if the supply of an input is represented by an inelastic supply curve, S^2S^2 , then an increase in price will bring forth a relatively small increase in quantity.

A phenomenon which is common to all supply curves is that the longer the period which the curve represents the more elastic it will be. A temporary rise in wages, for example, may attract few workers; but a rise in wages over a number of years may attract considerably larger numbers. This is particularly true of jobs which require higher skills and longer training. This concept is also important for specialized harvesting machines which require a number of years to develop, test, and manufacture. In the short run, the supply will be inelastic. However, once the prototype is designed and tested, the number that are built are probably subject to decreasing costs and therefore possible lower prices per unit. The supply of the same kind of machine should then be elastic.

Another way of looking at the elasticity of supply for labor is in terms of the mobility and skill level of labor. The elasticity of supply of farm labor depends almost entirely on its mobility. If the work is one which is easy to enter and which does not require much skill or unusual ability, then its supply will tend to be more elastic. For example, much of the hand and stoop labor in agriculture could be described as of this type. This could be represented by the supply curve S^1S^1 (Figure 5). A small rise in wages will normally attract large numbers of workers while a small decline will drive large numbers of workers away.

If, on the other hand, the work requires a great deal of skill which is not easily acquired or abandoned, then the supply of labor will be inelastic. Such a supply curve could be represented by S^2S^2 (Figure 5). The higher wage will not tempt many newcomers in.

Thus, with the development and adoption of new, sophisticated technology with the accompanying increased skill requirements and reduced mobility of

*All references to elasticity in this discussion imply the coefficients of price elasticity of supply or demand. The coefficient of elasticity is defined as the percentage change in the dependent variable divided by the percentage change in the independent variable. Thus, the coefficient of price elasticity of supply is defined as the percentage change in quantity supplied divided by the percentage change in price where quantity supplied is the dependent variable, or $e = \frac{\Delta q/q}{\Delta P/P} = \frac{P}{q} \cdot \frac{\Delta q}{\Delta P}$. The definition of coefficient of price elasticity of demand is the same as supply except the word "demanded" must be substituted for the word "supplied".

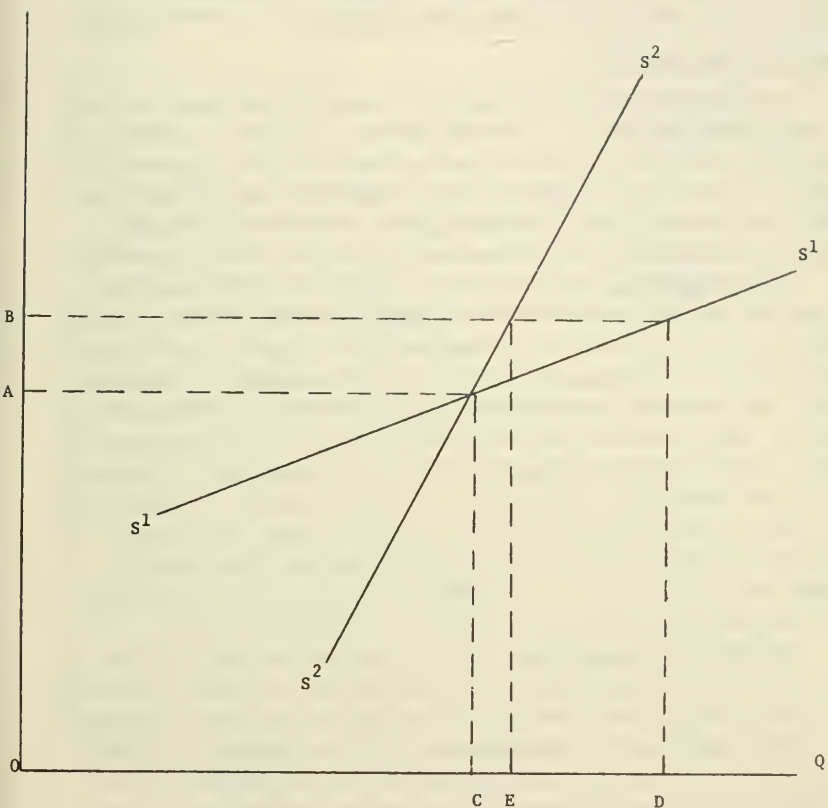


FIG. 5.--HYPOTHETICAL SUPPLY FOR FARM INPUTS (LABOR AND FARM MACHINERY)

	<u>s^1s^1</u>	<u>s^2s^2</u>
1. ELASTICITY	ELASTIC	INELASTIC
2. TIME PERIOD	LONG-RUN	SHORT-RUN
3. SKILL OF LABOR	UNSKILLED	SKILLED
4. MOBILITY	MOBILE	IMMOBILE
5. MACHINE TECHNOLOGY	SIMPLE, LOW COST TOOLS AND HARVEST AIDS	SOPHISTICATED, REQUIRES SHIFT IN ENTIRE SYSTEM

farm workers, we are probably facing an inelastic supply schedule for both labor and machinery. Over time, this suggests a more stable farm work force and a slowing down in the rate of decline in number of farm workers. It also suggests an increasing cost for both technology and the remaining labor.

Demand for Farm Inputs [2]

In considering the causes affecting the *demand* for any production input, we need to recognize that it is a derived demand. For example, a farmer buys a machine or hires labor to produce tomatoes because there is a demand for the product. There are at least four important propositions concerned with the demand for farm inputs, and in discussing these propositions we will be primarily concerned with labor and machinery in the production of vegetables.

First Proposition.--Using labor as an example, the first proposition follows from the fact that the demand for labor is derived. It is that *an expected rise in the demand for a product will cause a rise in demand for the type of labor which produces the product.* If it is expected, for instance, that at each price of a vegetable more will be demanded than before, then at each wage level of farm workers, more hours of work can be sold or needed than before. This proposition represents a shift in the demand and is illustrated by the shift from D^1D^1 to D^2D^2 (Figure 6). Unless the supply of the vegetable is perfectly inelastic, its production will also increase. An increased production of the vegetable will necessitate an increase in employment of workers even at the old rates. The demand for farm work will have increased as illustrated by an increase from OE to OF at wage OA (Figure 6).

Uncertainty of Future Demand.--It should be observed that it is the expected demand for vegetables, for example, that helps to determine the demand for inputs producing them. When labor is employed and machinery is purchased, the product which justifies the employment is not yet produced. The farmer may be right or wrong, but it is his opinion and not the accuracy of that opinion that determines the demand for farm workers and machinery in the production of vegetables.

Second Proposition.--The next three propositions concern the elasticity of demand for farm labor. The second proposition is as follows: *The larger the part played by any input in the production of a commodity, the more elastic is the demand for it likely to be.* This proposition is particularly important in the production of fruits and vegetables where labor normally represents a significant part of the cost of production. An increase in the price of labor will cause a significant change in the cost or output of the final production and, therefore, a significant reduction in the quantity of labor hired. With an elastic demand such as D^1D^1 , an increase in price from OA to OB reduces labor demand from OE to OC (Figure 6). However, as fruits and vegetables become more mechanized and labor represents a smaller proportion of total costs, the demand for labor will become more inelastic.

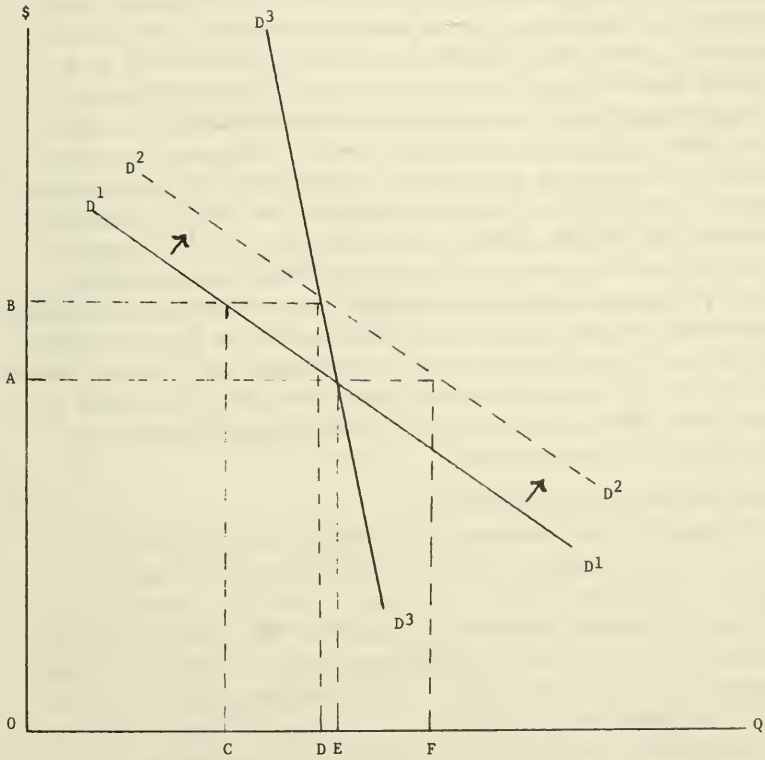


FIG. 6.--HYPOTHETICAL DEMAND FOR FARM INPUTS (LABOR AND FARM MACHINERY)

	<u>D^1D^1</u>	<u>D^3D^3</u>
1. ELASTICITY	ELASTIC	INELASTIC
2. EFFECT OF PRICE CHANGE ON QUANTITY	LARGE	SMALL
3. DEGREE OF MECHANIZATION	LOW	HIGH
4. SKILL LEVEL OF WORKERS	LOW	HIGH

Third Proposition.--The more inelastic the demand for a product, the more inelastic is likely to be the demand for the type of labor that goes to make the product. For example, if the demand for a vegetable is inelastic, the decrease in quantity demanded caused by the increase in wages will have little effect on the output and on the amount of employment. This can be illustrated by demand curve D^3D^3 where an increase in wages from OA to OB reduces the demand for labor relatively little, from OE to OD (Figure 6).

Fourth Proposition.--The more expensive the substitutes for an input, the more likely it is to have an inelastic demand. A raising of the wage will result in a relatively small decrease in employment, for the high priced labor will be facing high priced machines and fewer are likely to be replaced. In this case the demand for labor is inelastic as shown by D^3D^3 (Figure 6).

In the near term, demand for labor will probably be more elastic in vegetable production than for fruit production because of the greater potential with vegetables for substituting machines for labor. As we approach complete mechanization of a crop or the industry, or where mechanization is not feasible, demand for both labor and machinery will become more inelastic. Changes in price will have relatively little effect on demand because the degree of substitutability will have declined.

Supply and Demand for Farm Products [1]

The demand for most farm products is inelastic as illustrated by the demand function D^1D^1 (Figure 7). This means that as the total supply or quantity of a farm product increases, prices will decline and total consumer expenditures and farmers' income will also decline. The demand function shows the quantities of farm products that will be purchased at alternative prices. The aggregate demand for farm products, in the near term, remains relatively constant even though quantities and prices may change. In the long run, the demand schedule will shift to the left or right depending on changes in population, income, tastes, and preferences. With population the major factor, the demand schedule for most farm products will shift to the right. Products will be affected differently by changes in income, tastes, and preferences.

To illustrate the effect of increased mechanization on production, let us assume that demand is given. We also assume that adoption of mechanization and other labor reducing technologies is stimulated by the necessary cost of labor and farmers' desire to minimize costs. For the individual farmer, demand is usually independent of his cost of production. However, supply is directly related to producer costs, perhaps with some lags. The industry will be willing to produce smaller quantities at low prices and larger amounts at higher prices as shown by lines S^1S^1 , S^2S^2 , and S^3S^3 (Figure 7).

The intersection of the supply and demand functions is the equilibrium point. For example, at equilibrium point G, producers are willing to furnish quantity B at price A and at this price consumers will clear the market. A

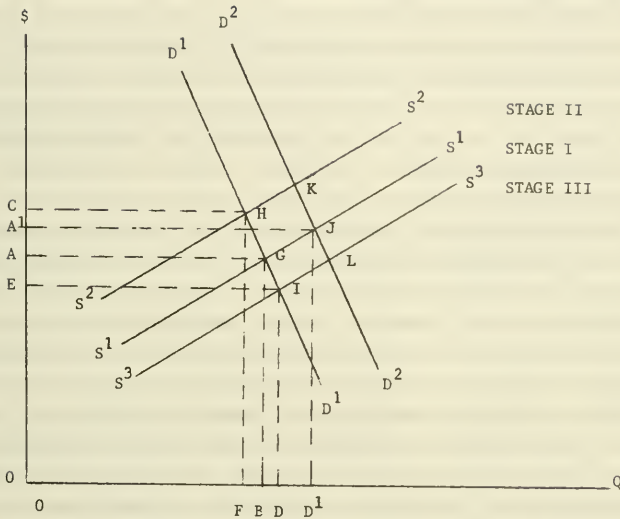


FIG. 7.--HYPOTHETICAL SUPPLY AND DEMAND FOR FARM PRODUCTS

STAGES OF MECHANIZATION

- I. BEFORE INCREASE IN WAGES.
- II. ADOPTION OF NEW TECHNOLOGY--MECHANIZATION WITH REDUCED LABOR INPUTS, HIGHER COST PER UNIT OF LABOR. TOTAL LABOR COSTS MAY BE LOWER BUT NOT NECESSARILY.

LABOR REDUCING TECHNOLOGY NOT AVAILABLE; TOTAL AND UNIT LABOR COSTS INCREASED.

- III. FINAL STAGE OF MECHANIZATION AFTER INDUSTRY ADJUSTMENT TO WAVE EFFECT OF NEW MECHANIZED TECHNOLOGY--INCREASED SPECIALIZATION OF PRODUCTION, FEWER PRODUCERS, LARGER PRODUCTION PER PRODUCER, CHANGE IN ENTIRE SYSTEM OF PRODUCTION DUE TO ADOPTION OF OTHER LABOR REDUCING AND OUTPUT INCREASING TECHNOLOGIES--IRRIGATION, PESTICIDES, ADAPTED VARIETIES, ETC.

higher price would call forth a greater supply but induce consumers to purchase less. The surplus would tend to drive the price down to equilibrium point G. A lower price would make consumers wish to purchase more while producers furnished less. Competition for the available produce would tend to drive the price back up to equilibrium point G.

As the price of labor rises each farmer's cost function per unit of output will rise and the industry supply function will shift upward and to the left. The new supply function is shown as S^2S^2 (Figure 7). Costs will rise even though farmers shift to a new method of production by substituting machinery for labor. If this were not so, they might have shifted to the new method before the increase in wages. This supply function could represent the second stage of mechanization--the adoption of a capital-intensive technology. It also may represent the relatively fixed equilibrium situation for crops such as fresh peaches or strawberries that cannot be mechanized in the near future. However, higher labor costs will stimulate the search for new labor-reducing technology. With an inelastic demand, the new equilibrium point H will represent a higher price, smaller quantity sold, and larger gross incomes to farmers. Consumers will be less well off. There will be fewer farm jobs and for those commodities that can be effectively mechanized, the total wages will likely be less. For those crops that cannot be mechanized, the number of jobs will decline slightly because of reduced production, but total wages will increase. If producers do not have alternative labor-saving methods of production available, labor may push for higher wages without sacrificing a great number of jobs.

The effect of continuing increases in farm labor costs will vary considerably by commodities depending on the potential for complete or partial mechanization. From past experience we can expect the adoption of other labor-reducing and output-increasing technologies. In the early stages of change, producers frequently adopt technologies that are not economical. However, over time these producers increase the size of their production units, engage in cost sharing arrangements or custom work to the extent that the new technology is economical. Within a few years after the adoption of a new technology, unit costs are lowered and the cost function may drop to or below the original level. This is illustrated by Stage III, S^3S^3 (Figure 7). The mechanization of processing tomatoes is an example where the time span for the various stages of mechanization has been unusually short. The current supply function for producers of processing tomatoes could be represented by S^3S^3 . For producers of fresh tomatoes, Stage II, S^2S^2 is more appropriate. The time span to complete the adjustment and the level of the supply function after the adjustment will vary considerably by commodities.

In the preceding discussion we have assumed that the demand was constant. But for the industry over time, as pointed out earlier, the demand function will change. The major factors that influence demand are changes in population,

income, tastes, and preference. In the near future the major change will result from population increases. The population of the United States is projected to reach 219 million in 1975. This implies an average annual growth rate of 1.3%. The effect of changes in real income on per capita consumption of food is relatively small. For every 1% increase in money income, per capita purchases of food for use at home increases at only 1/3 this rate.

If we follow mechanization through to some new adjustment or equilibrium point, we cannot assume that demand will remain constant. Rather, we can more realistically assume that the demand schedule for farm products will shift to the right as shown by D^2D^2 (Figure 7).

At any one time, we will likely find specific farm products at each of the equilibrium points shown along D^2D^2 . For example, by 1975 point K might represent fresh tomatoes and peaches since it is probable that mechanization of these commodities for the fresh market will be relatively slow. Cling peaches, wine grapes, lettuce, and cabbage, for example, could be depicted by point J where mechanization will be well underway and the industries are adjusting toward lower supply costs. Potatoes, peas, snap beans, and processing tomatoes are probably at point I today and could be expected to shift to point L by 1975. Thus, the 1975 supply and demand equilibrium point for total fruits and vegetables may be more nearly represented by point J. This suggests that total production, unit prices, and total farm income from fruits and vegetables will increase. The effect on workers will be a reduced total number of farm jobs but an increased number of higher skilled and higher paid jobs. The status of the remaining workers should be substantially improved through better working conditions, continuous employment, and health and unemployment benefits. Unfortunately, those workers who are displaced will tend to be the poorer quality, unskilled who are least able to make the adjustment to alternative employment. Over a longer period our experience suggests that the dynamics of mechanization and associated changes in varieties and cultural practices will increase output and lower costs as illustrated by equilibrium point L at the intersection of D^2D^2 and S^3S^3 (Figure 7).

Unfortunately for labor, alternative labor-reducing technologies are being developed rapidly. Some have already been developed and will become economical as the cost of labor increases. While rising wage rates will not cause large production cutbacks, they will result in large cuts in the amount of labor required. Labor's power to raise wages without losing jobs will return only after mechanization is complete and the industry has adjusted as shown by S^3S^3 (Figure 7). At that time, the few unskilled and semiskilled workers will find union help in raising wages and improving working conditions beneficial to their cause. For example, unionization of semiskilled workers hired to sort tomatoes mechanically harvested for processing would probably be a net gain to the workers. However, if we assume that this crop is not approaching the final stage of mechanization, then additional improvements in

the machine, with increased investment, could further reduce the number of jobs. The present practice of sorting tomatoes on the machine might shift to central sorting sheds. The number of jobs would decline but the wages and working conditions of the new jobs at the central station would be improved.

Demand for Labor in the Production of Fruits and Vegetables, 1975

Once we move from the static economic to the real world concepts of the supply and demand for fruits and vegetables, we are faced with the need to quantify our inputs and outputs. Our major concern at this colloquium is the effect of continued mechanization of the production of fruits and vegetables on manpower. And, here we are particularly concerned about the demand for labor.

The demand for farm labor in 1975 in the production of fruits and vegetables is primarily a function of the demand for and supply of the products as modified by changing technology. As indicated earlier, the industry supply schedule is essentially a summation of producers' cost of production. Thus, the degree of mechanization and the associated labor requirements are key factors in the production and supply of fruits and vegetables.

To show the effect of increased mechanization on labor requirements for fruit and vegetables for 1975, the extent of harvest mechanization for 1968 and 1975 were estimated. These estimates were used to update labor coefficients for individual crops for 1964-68 and to project labor coefficients for 1975. A 5-year average of current production was used to avoid the problem of abnormal production by an individual crop in any specific year. Then, the production of individual fruit and vegetable commodities was estimated for 1975 through a series of projection approximations. Lastly, using man-hours per acre and production for individual fruits and nuts, total man-hours were determined for 1964-68 and 1975.

First, we will examine the extent of harvest mechanization in the production of fruits and vegetables. Then, we will evaluate the effect of projected production and increased productivity on the total labor requirements for each of the two major categories of fruits and vegetables. And lastly, we will show the effect of increased productivity through mechanization and the changes in production on labor requirements for the total fruit and vegetable industries.

Extent of Mechanization

The mechanization of fruits and nuts is currently at a relatively low level compared with vegetables, and the outlook for 1975 is not nearly as optimistic as that for vegetables. When we look at the total U.S. production of fruits and nuts, we find only 2% harvested mechanically in 1968, and we expect it to increase to only 17% by 1975 (Figure 8 and Appendix Table 4). For example, in 1968 the harvest of only one crop--tart cherries--was as high as 50% mechanized. No other major fruit or nut showed more than 5% of the crop mechanically harvested. Most of the gain in mechanization by 1975 will come

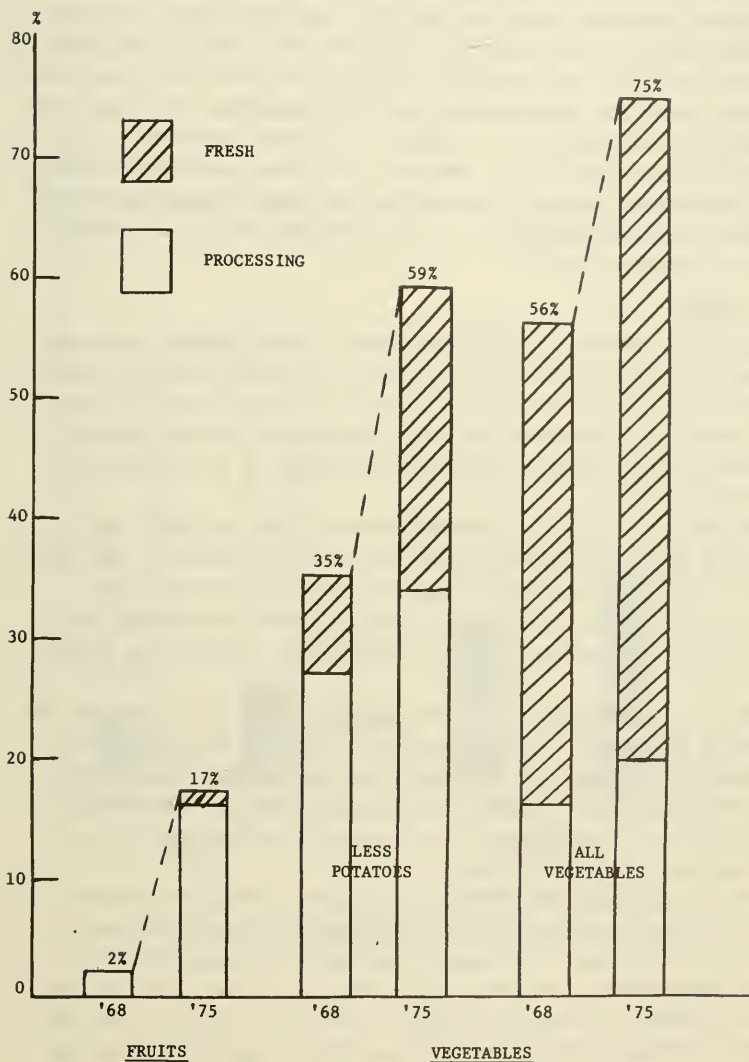


Fig. 8.--PERCENTAGE OF FRUITS AND VEGETABLES MACHINE HARVESTED, 1968 AND 1975

from substantial improvement in the mechanization of wine grapes, cling peaches, and both tart and sweet cherries.

In contrast, mechanization has proceeded more rapidly in the production of vegetables. Mechanization of the total U.S. vegetable harvest is currently 56% complete with the expectation that it will increase to 75% by 1975 (Figure 8 and Appendix Table 5). The processing portions of most of the major vegetables are already approaching complete mechanization of the harvest. We expect only the harvest of fresh tomatoes and a category of all other vegetables to be less than 50% mechanized in 1975. Some of the vegetables such as potatoes, carrots, snap beans, and peas are approaching that stage of mechanization where improvements in labor productivity can be obtained only through more efficient and possibly larger machines.

Fruits and Nuts

As we view the prospects of mechanization of fruits and nuts along with a substantial increase in production, we realize that we are facing a situation where total labor requirements for these crops will decline relatively little. By 1975, total acreage of fruits and nuts is expected to increase 19% while total production will increase even more, to the extent of 27% (Figure 9 and Appendix Table 6).

Even though the outlook for mechanization of fruits and nuts is not as optimistic as that for vegetables, we do find a projected decline in the harvest labor per acre of 23% (Figure 10 and Appendix Table 7). Preharvest labor productivity is not expected to improve as much as harvest technology; and, thus, the total labor used per acre of fruits and nuts is expected to decline only 19%.

What will the substantial increases in production of fruits and nuts and only moderate improvement in productivity mean in terms of total man-hours? Total man-hours for harvest are projected to decline only 8%, from 249 million hours to 229 million hours (Figure 11 and Appendix Table 8). Total man-hours for all production of fruits and nuts are expected to decline only 3% from 418 million hours to 404 million hours.

When the projections for individual fruit and nut crops are examined, it is clear that the citrus crops will be facing supply and demand problems in the near future. Production of oranges is projected to increase 41%, but only a moderate improvement is expected in labor efficiency. Thus, labor requirements are expected to increase 24% (Appendix Tables 6, 7, and 8). Total labor requirements are expected to increase substantially for all other citrus crops with moderate increases for apples and pears. We find major reductions in labor requirements only for cherries and grapes, but small reductions are projected for strawberries and pecans.

Vegetables

We projected an aggregate increase of 80 million cwt. of vegetables

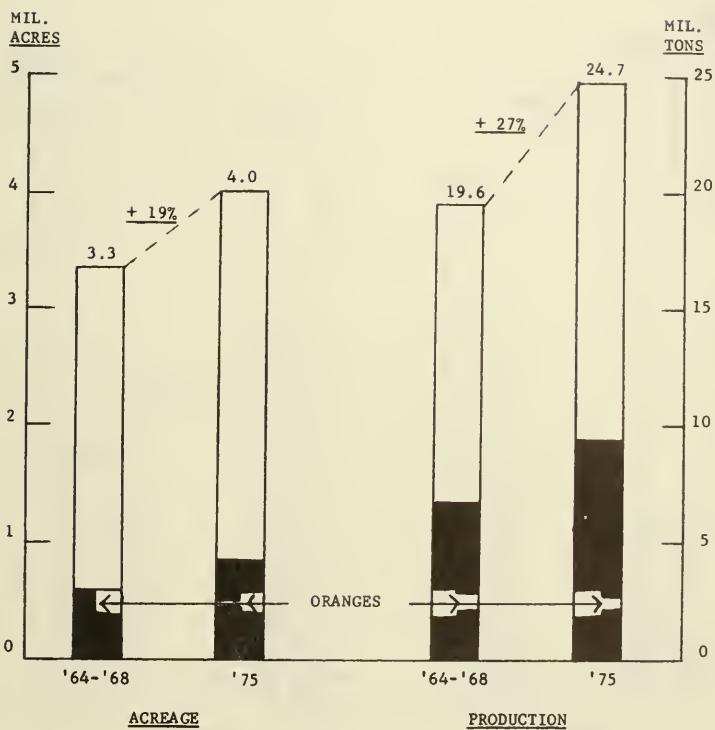


FIG. 9.--ACREAGE AND PRODUCTION OF FRUITS AND NUTS, UNITED STATES
1964-68 AND 1975

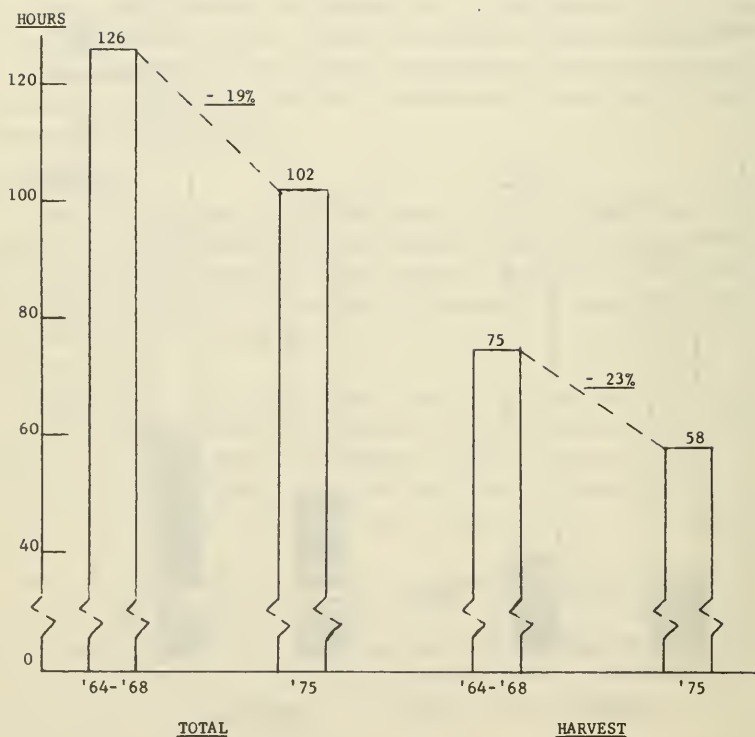


FIG. 10.--MAN-HOURS PER ACRE TO PRODUCE FRUITS AND NUTS,
UNITED STATES, 1964-68 AND 1975

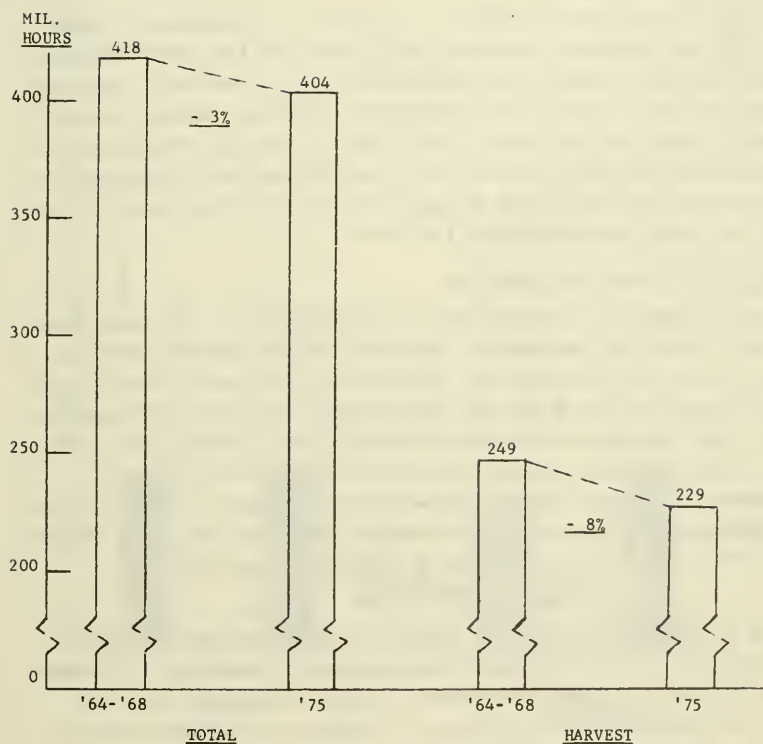


FIG. 11.--TOTAL MAN-HOURS TO PRODUCE FRUITS AND NUTS,
UNITED STATES, 1964-68 AND 1975

including potatoes from 1964-68 to 1975 (Figure 12 and Appendix Table 9). When we apply our projected technology to projected production of vegetables for 1975, we find a substantial improvement in the productivity of labor. By 1975 the average man-hours per acre for harvesting vegetables will drop almost half from 38 to 21 hours (Figure 13 and Appendix Table 10). The increase in the productivity of the preharvest labor is not as great; and, thus, the average total hours per acre for the production of vegetables will decline about one-third from 62 to 42 hours.

With an expected 11% increase in the production of vegetables from 1964-68 to 1975, man-hours for harvest will decline 40% from 163 million hours to 98 million hours (Figure 14 and Appendix Table 11). Substantial decreases in labor used for the harvest are projected for potatoes, tomatoes, lettuce, cucumbers, onions, and snap beans. Total labor will decline from 265 million hours to 194 million hours or about 27%. These are substantial decreases in the labor used in the production of vegetables and will affect, primarily, the migrant and unskilled categories of farm labor.

Effect on Total Fruits and Vegetables

As we examine the aggregate effect of mechanization on the future demand for labor in the fruit and vegetable industries, we note unequal changes in productivity as well as production. Thus, we will find surplus labor in some areas for some crops and at the same time shortages for others. For example, by individual crops we are projecting a decline of 67% in total labor requirements for the production of snap beans but an increase of 24% in labor requirements for oranges (Appendix Tables 8 and 11). Overall, for both fruits and vegetables we are expecting only a moderate decline in total labor requirements of 85 million hours or a decline of about 12% (Figure 15).

Summary and Conclusions

As we look to the future, the farmer, or more appropriately the farm business manager, will be challenged to keep pace with technology. To expand or even to stay in business he must have the courage to change. With new technology the organization of farming will change, worker opportunities will change, and products will change.

Within a framework of static economic concepts I have drawn some inferences concerning the implications of future technology in the production of fruits and vegetables. Mainly, I have been concerned about the effect of rising costs of farm labor and resulting mechanization.

The rather simplified examination of the capital-labor substitution concept suggests that: (1) throughout agriculture in recent decades the substitution of machinery, chemicals, and other farm inputs for labor and land has been a dominant force in substantially increasing total production with a relatively small increase in total inputs; (2) when we consider the potential for future harvest mechanization, we find that fruits and nuts and fresh

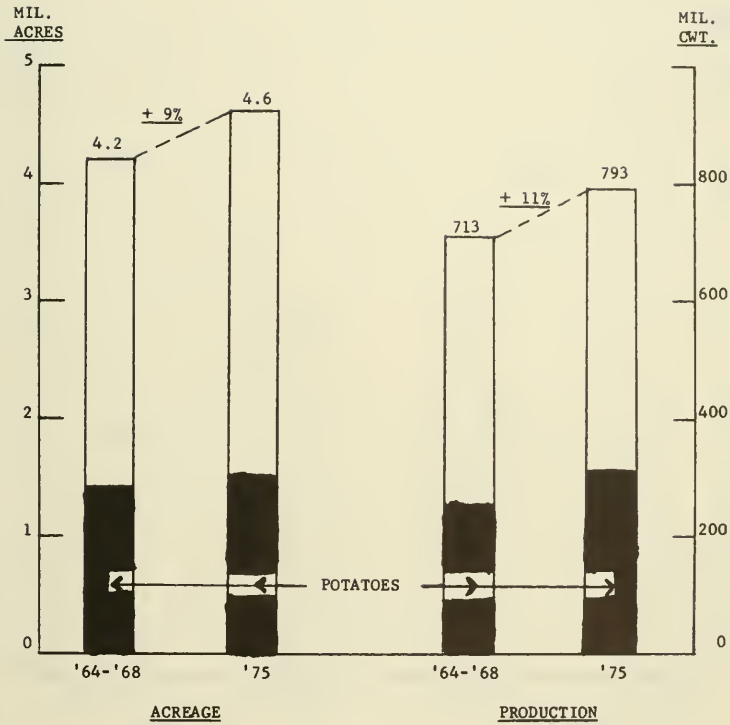


FIG. 12.--ACREAGE AND PRODUCTION OF VEGETABLES, UNITED STATES, 1964-68 AND 1975

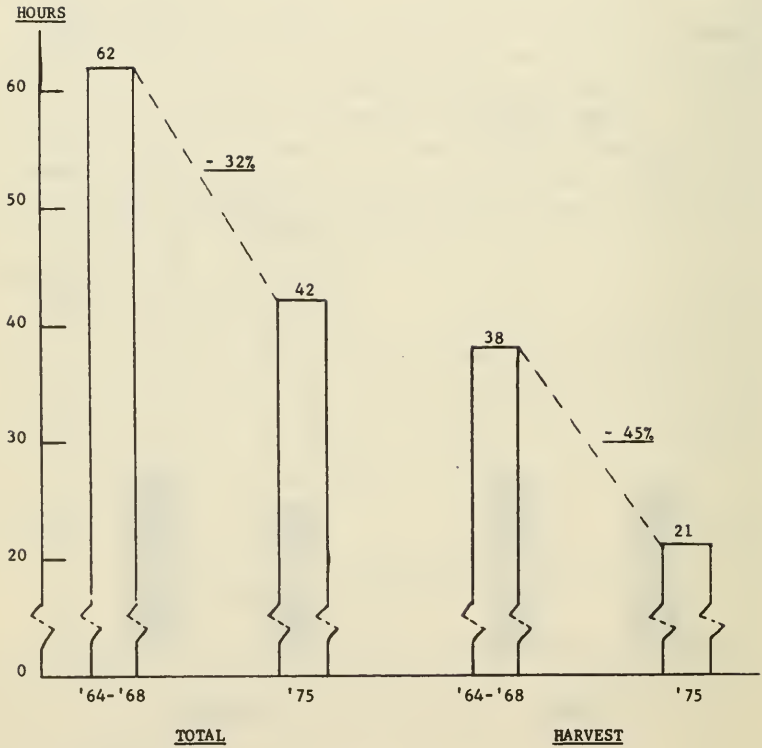


FIG. 13.--MAN-HOURS PER ACRE TO PRODUCE VEGETABLES,
UNITED STATES, 1964-68 AND 1975

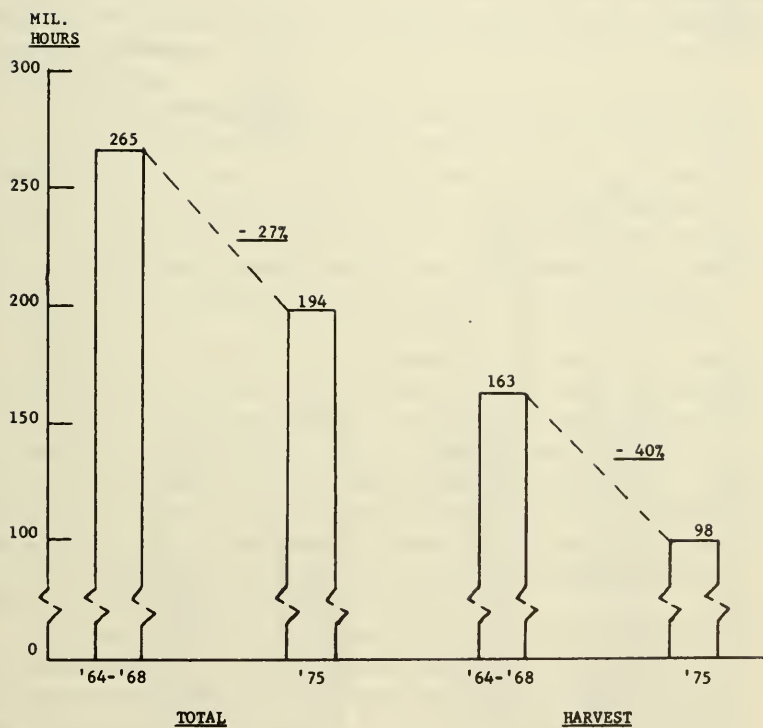


FIG. 14.--TOTAL MAN-HOURS TO PRODUCE VEGETABLES, UNITED STATES, 1964-68 AND 1975

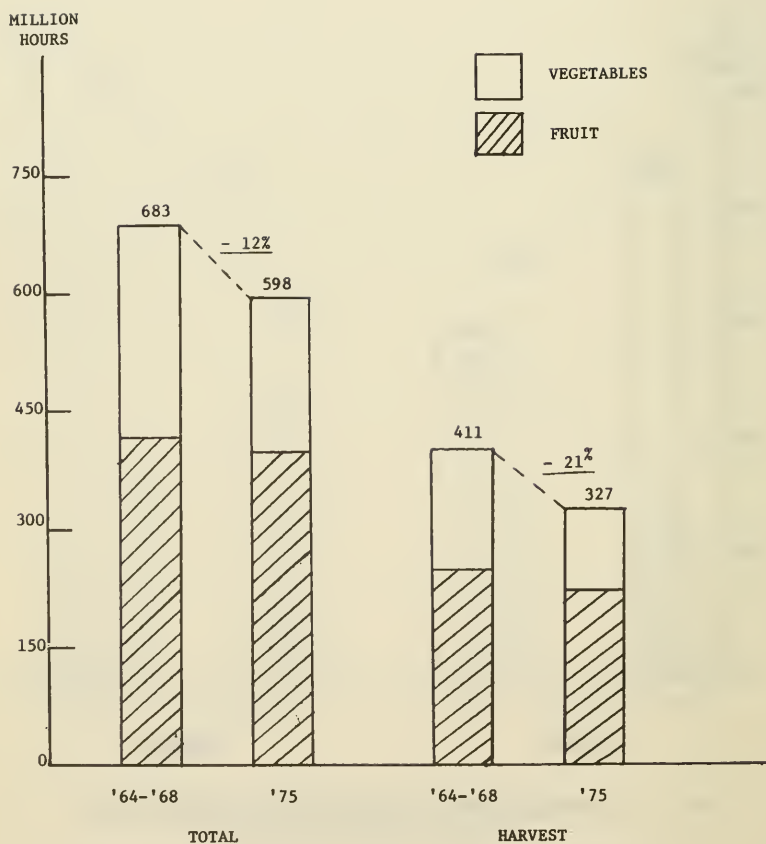


FIG. 15.--TOTAL MAN-HOURS TO PRODUCE FRUITS AND VEGETABLES, UNITED STATES, 1964-68 AND 1975

vegetables will benefit from technology in which machines are substituted for hand labor. In contrast, future improvements in labor productivity in the harvesting of processing vegetables will come mainly from substituting larger for smaller machines and biological or chemical means for mechanical forms of capital; and (3) either an increase in the size of enterprise or a nonproportional change in the price of inputs, such as higher wage rates, will cause farmers to examine their mix of inputs. Once they adopt a particular mechanized technology, they are concerned in the short run only with operating costs; and labor costs must increase considerably to force them to shift to a more capital-intensive technique. This accounts for some of the lag in the adoption of new mechanized practices.

We also looked at the implications of technology on the production of fruits and vegetables through the lens of supply and demand. In the future, we should be facing a more inelastic supply schedule for both labor and machinery. The more completely crops are mechanized, with the accompanying higher skill requirements and reduced mobility of farm workers, the more inelastic the labor supply schedule should become. This means that wage rates can increase in the future with relatively smaller increases in workers available.

Demand for an input is affected by demand for the final product, the proportion which a particular input represents of total inputs, and the degree of substitutability for other inputs. In the near term, demand for labor and machinery will be more elastic in vegetable production than for fruit production because of the greater potential for substituting machinery for labor. In the longer run, as we approach complete mechanization of a crop or an industry, demand for both labor and machinery will become more inelastic. Then, changes in prices of inputs will have relatively little effect on demand because the degree of substitutability will have declined.

As we look at the supply and demand relationship in the production of fruits and vegetables, we find the growing population is the major factor that will increase demand. The immediate effect of rising labor costs and the adoption of new machine technology is to increase farmers' cost per unit of output and shift the industry supply function upward and to the left. The situation represents the interim stage for a mechanized crop or the equilibrium situation for a crop which cannot be greatly mechanized. With an inelastic demand for the commodity, the new equilibrium point of supply and demand will result in a higher price and smaller quantity of the product sold and larger gross income to the farmer. Consumers will be less well off. Farm jobs will be fewer, and for those jobs that can be mechanized total wages will be less. For those jobs that cannot be mechanized the number of jobs will decline slightly because of reduced production, but total wages will increase. In the final stage of mechanization producers' cost function and the industry supply curve may shift to the right or below the original level.

The supply and demand situation for fruits and vegetables through 1975 suggests that production, total farm income, and unit prices will increase. Total number of jobs will decrease but the number of higher skilled and higher paid jobs will increase. Unfortunately, those workers who are displaced will tend to be the unskilled who are least able to make the adjustment. The power of labor to raise wages without losing jobs will return only after the potential mechanization is completed.

Future labor inputs for 1975 differ considerably between vegetables and fruits. The differences are caused primarily by larger expected increases in production and lower potential, at least in the near future, for mechanization of fruits than for vegetables. The production of fruits and nuts is expected to increase 27% from 1968 to 1975. During the same period, the extent of harvest mechanization is expected to increase from 2% to 17%. As a result, total man-hours are expected to decrease only 3%. In contrast, vegetables are already more completely mechanized and harvest mechanization is expected to increase further from 56% in 1968 to 75% by 1975. With an 11% increase in production by 1975 total man-hours are expected to decline 27%. The total effect of projected mechanization and changes in production of fruits and vegetables is only a moderate decline in total man-hours of 85 million hours or 12% by 1975.

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THE RURAL MANPOWER SCENE

D. W. Sturt

Introduction

The rapid growth of the U.S. economy, the increasing disparities between the income level of living of the majority and that of the disadvantaged, and the rising public concern for the disadvantaged bring more clearly into focus the problems of rural poverty and rural manpower in general, and more specifically, the problems of farm labor. Although rural poverty has not shared in the limelight afforded riot prone urban poverty areas, the emerging awareness of the significant relationship between rural poverty and rural manpower problems and urban social and economic ills is causing some rethinking as to the necessity for tackling the causes of poverty as manifested in rural areas rather than the symptoms of poverty as manifested after rural people migrate to and congregate in urban ghetto complexes.

At the outset a comment is in order relative to the U.S. agricultural policy as developed and implemented by the agricultural establishment over the past century and centered around the USDA and its land grant affiliates. Programs and policies have been predicated upon the family farm myth with production efficiency and cheap food being its prime objective. The success of agricultural technology in providing better and cheaper food and fiber is difficult to challenge in and of itself. Agriculture has been a major innovator in economic growth and a major creator of the social pathology associated with that growth. Much of the human factor in rural areas, the masses of people released from agriculture, and the plight of many in agriculture who did not fit the family farm prototype and were unpropertied have been ignored. Indeed, programs and policies with a product rather than people orientation have served to generate rural poverty at levels higher than those in urban areas.

Further, nonagricultural establishment agencies and organizations have, out of deference to the agricultural establishment, avoided entering the service fray on grounds of preemption. Farm labor and rural manpower in general are the categories that have suffered. Unpropertied and unorganized, their political voice and their ability to attract services has been minimal.

Fortunately, there are signs of change. The nonagricultural agencies and organizations are moving in to fill the void. One such move is the recent establishment of a rural manpower service within the U.S. Department of Labor. The conscience of the agricultural establishment has been disturbed to the extent that somewhat more concern for rural people is in evidence, including the farm worker, the low income farmer, and the minority group farmer. The real pressure for these changes have come from society at large--in step with the poverty syndrome--that questions the validity of macro decisions made on the basis of micro analysis, that questions policy decisions with large-scale human consequences that are made in ignorance of those consequences.

Certain basic underlying assumptions have been made relative to farm labor in the U.S. in the preparation of this paper. They include the following:

1. The human factor in agricultural production and marketing is critical to the future growth and development of the agricultural industry.
2. Agriculture has lost much of its distinctiveness relative to nonagriculture, both economically, socially, and politically.
3. The hired farm labor component is a separate factor of production, responsive to a different set of forces, and should be viewed apart from operator and family farm labor.

The Structure of the Farm Labor Force

The size and structure of the farm labor force is complicated, among other things, by the differences between numbers of workers and man-hours of input, the quality differentiation among workers, and the wide seasonal variation in employment.

In addition, there are statistical disparities apparent in the various farm labor data series; i.e., the data from the Statistical Reporting Service of the USDA, the Farm Labor Service of the U.S. Department of Labor, the U.S. Census, the Bureau of Labor Statistics, and the Economic Research Service of the USDA. In the interest of consistency, I have elected to use the data supplied by the Statistical Reporting Service and the Economic Research Service of the USDA coupled with selected data from the U.S. Department of Labor.

The farm labor force is composed of farm operators and their families and hired farm workers, both year-round and seasonal. The average monthly employment on U.S. farms in 1968 was 4,749,000 of which 3,550,000 were operator and family workers and 1,199,000 were hired workers [6]. Based on the monthly averages for 1968, hired labor made up 25% of the total workers on farms. The decline in total farm employment from 1965 to 1968 was 15%, the decline in operator and family workers being 14%, and the decline in hired workers being 19%. The decline in labor input on U.S. farms has been continuous as capital substitution for labor and further mechanization has stepped up the output per worker. According to USDA preliminary estimates, the farm output index (1957-59=100) indicates that per man-hour output increased from 169 in 1967 to 176 in 1968, furthering a continuous trend in this direction.

While the total labor inputs in farming have been declining, the relative importance of the hired component has remained relatively unchanged. Approximately one-fourth of the labor employed on farms is hired. The decline in the relative importance of the seasonal hired component has been offset by an increase in the relative importance of the year-round hired component, maintaining the position of all hired workers in total farm employment. For example, comparing yearly averages from 1963-65 with 1966-68, the data indicates that the average number of farm workers who worked 250 days or more declined only

2%. The number of workers working 75 to 249 days declined 19% and those working less than 75 days declined 13% [5].

Monthly averages tend to be misleading in discussing farm labor numbers. Actually, about 2.9 million different people did some work on farms as hired workers in 1968 (Table 1). Of these 1.3 million or 44% were casual workers working less than 25 days in farm wage work, and 1.0 million or 36% worked from 25 to 150 days in farm wage work with only 0.6 million or 20% engaged in farm wage work for 150 days or more. The number of year-round hired workers, those working more than 250 days per year in farm wage work, was 324,000 in 1968.

The large numbers of casual and seasonal workers in agriculture is, of course, associated with the biological nature of agriculture and the seasonality in its labor requirements. In addition to the highly seasonal demand for farm workers there are supply considerations as well that contribute to the large numbers of short-time workers. The poor image of farm work, the low skill requirements, and the comparatively low wages are conducive to high labor turn-over for some. For others, farm work is a temporary activity and not their major source of income. In 1968, only 27% of the hired farm work force listed farm work as their chief activity. Some 59% of the work force, composed mostly of housewives and students, were not in the work force most of the year.

Farm work is a young white man's game and increasingly involves those with nonfarm residences [5]. The median age of farm workers in 1968 was 24 years. Three-fourths of these workers were white and male, with 32% of the workers between 14 and 17 years old, mostly male, and mostly living in nonfarm residences. A comparison of residence among hired farm workers shows 65% of farm workers in 1948-49 living on farms and only 27% of farm workers in 1967-68 living on farms.

Apart from the numbers of workers, man-hour requirements are worthy of some consideration. The number of hours worked has little relationship to the number of workers due to the variation in length of employment. Also, the man-hours needed and the man-hours involved are quite different. The under-employment of workers, in part due to the necessity of holding workers to assure availability when they are needed, tends to distort the actual manpower requirements as calculated on a per farm unit basis. As such, the demand for labor calculated to fit actual hours of work needed understates the man-hours actually necessary. Again, this is associated with the nature of farm work and, in part, associated with farm labor supply considerations.

Seasonal Workers

Seasonal farm workers consist of unpaid family workers who enter the work force when they are needed as well as hired farm workers. Hired seasonal workers consist of migratory workers and nonmigratory workers, and the distinction between these two categories is not always as clear cut as it may at first appear. Generally, workers that do not work in the same areas where they

usually reside are considered migrants. The degree of migrancy varies from the worker who moves into another county temporarily to harvest a particular crop to the worker who moves from state to state engaging in a variety of farm jobs and working in a variety of crops. Many migrant farm labor oriented groups have become frustrated in the semantics hasseling often associated with the determination of migrancy. Although some migrant workers are year-round hired farm workers, most of them work for less than 150 days per year in farm work and, as such, are classified as seasonal workers.

The numbers of migrant workers are declining. For many years some 400,000 migrant workers were included in the farm work force. In 1966, the USDA reported 351,000 migrant workers, and in 1968 they reported 279,000 migrant workers or 10% of the farm wage workers; and no doubt the numbers are less than that at the present time (Table 1).

Three migrant streams have been identified in studies of farm migrants, although there is considerable movement outside the traditional pattern as workers search for jobs. The east coast stream starts in Florida and flows up the coast line to New England (Figure 1). The west coast stream emanates in California and flows northward to Washington and Idaho. The midwest stream begins in Texas and fans out over the midwest with Michigan being the major receiving state. The most heavily traveled route would appear to be Texas through Arkansas, Missouri, and Illinois and into Indiana, Michigan, and Ohio. There is a seemingly infinite variety in movement as the smaller streams shift from year to year. While half the migrants travel less than 75 miles from home, 20% travel a thousand miles or more [4].

Migrant workers are predominantly male and young, mostly 24 years old or less with an 8.5 median years of schooling [4]. The migrant streams consist of blacks, whites, and a heavy contingent of Spanish Americans.

The education, health, housing, welfare, and other problems associated with farm migrants is well known. Most of these problems stem from the fact that our society, in spite of its mobility prone characteristic, is not geared to accommodate people on the move in the migrant worker "sense". Although migrancy in and of itself is not the only problem--other problems being those associated with disadvantaged minorities--it is the chief problem. The proliferation of programs designed to help migrant workers and their families are a well-meaning social response to help migrant farm workers and their families. The effectiveness of these programs appears to be limited, due largely to the recurring movement of these people. Solutions should be much more easily accomplished when migrant workers have established geographical community roots and become socially integrated into the ongoing pattern of American community life.

Wages and Days Worked

In general, hired farm workers worked 79 days in 1968 and earned \$10.55 per day or \$834 (Table 1). The 1.6 million noncasual workers worked an average

Figure 1. -- Major routes followed by migratory farmworkers *



*1966 Manpower Report, U.S. Department of Labor, p. 129.

of 135 days and earned \$1,434 or \$10.60 per day doing farm work. When combined with nonfarm wage work, yearly earnings increased to \$1,346 for all workers and \$1,793 for all noncasual workers. Average daily earnings for farm work increased progressively with the number of days worked, with casual workers--those working less than 25 days--earning \$8.50 per day and workers working 250 days or more earning \$11.60 per day. With nonfarm wages for farm workers, the pattern was not so distinct; however, daily earnings in nonfarm work ranged from \$12.85 per day for those workers working from 25 to 74 days in nonfarm work to \$15.90 per day for those workers working from 75 to 149 days in nonfarm work. The spread in daily earnings for farm work was \$3.10, and the spread in daily earnings from nonfarm work was about the same.

Daily farm earnings were \$1.75 higher for white farm workers than for nonwhite workers and \$2.70 higher for male workers than female workers, the differential between white male workers and nonwhite female workers being \$3.65 per day. Those workers who listed farm work as their chief activity showed daily average earnings of \$11.60 compared to \$15.65 for those who listed nonfarm work as their chief activity. Farm workers whose chief activity was keeping house or attending school showed daily average earnings of \$7.90 and \$7.20 per day, respectively. Migratory workers earned \$1 more per day than nonmigratory workers from farm wage work and \$1.10 more per day from both farm and nonfarm wage work combined.

Farm vs. Nonfarm Wage Work

Of the 2,919,000 workers who did farm wage work in 1968, 37% also did some nonfarm wage work. For those who did farm wage work only, the average daily pay was \$10.65, and the average yearly pay was \$1,025 for the 96 days worked [5].

The 1,060,000 workers who did some nonfarm wage work worked 50 days at farm work for which they received an average daily pay of \$10.05 or \$503 per year not including perquisites provided. These workers received \$14 per day or \$1,400 per year for their nonfarm work and worked 100 days. The total days worked was 150.

When one considers perquisites, which are often provided in farm employment and usually not provided in nonfarm employment, the relatively small differential between earnings in farm and nonfarm work is worthy of special note. The same workers with the same skills working in both farm and nonfarm work have apparently been unable to command the higher wages usually associated with nonfarm employment. It suggests the low earnings of these workers may well be determined by some factor not associated with the farm labor market alone.

Unemployment rates for farm labor tend to run considerably higher than those for all workers. In 1968, for example, the unemployment rate for farm workers as shown by the U.S. Department of Labor was 6.3%, while the unemployment

rate for all workers was 3.6% [6]. Unemployment is closely associated with the seasonal nature of many agricultural jobs, of course. An unemployed worker becomes an unemployed farm worker if his last job was in farm work.

Some Supply Considerations

Supply or demand analysis relative to the farm work force, if it is to be meaningful, must consider: (1) the spectrum of skills required and available; (2) the seasonality of requirements and the availability of workers at specific times; and (3) the geographical location of workers and job opportunities.

Perhaps one of the strangest paradoxes in agriculture today is the shortage of farm labor amidst the surpluses of people in agriculture and in rural areas. It is misleading to look at the farm labor supply (or demand) in the aggregate only. Most of the problems associated with farm labor supply today become apparent only when we disaggregate the farm labor supply. Disaggregation leads us to analyze what workers are available, at what time and for how long, what skills and attitudes they possess, as well as the complex of considerations which deter or encourage a worker or group of workers to reject or accept employment.

Certainly farm labor supply is a function of wages (or the wage package) as well as nonfarm employment opportunities and unemployment levels in the nonfarm sector; however, this is not the whole story. Supply is also a function of employer recruitment practices, labor management, and the work environment coupled with the societal image of farm work; and farm employers would do well to recognize these factors in approaching the solution of farm labor supply problems.

Recruitment and Planning

Recruitment and planning are essential ingredients in obtaining an adequate labor force. Many farmers have not recognized the need for doing their own recruitment. Led by the hand for years by the Farm Labor Service and basking in the abundance of a seemingly unlimited supply of workers, including foreign workers, farm employers have felt little need for aggressive recruitment or recruitment at all.

Planning is also a basic essential to obtaining an adequate supply of farm labor. An accurate assessment of needs with due recognition to the all important seasonality factor have proved most useful to farmers in general, particularly those who work in conjunction with various agencies to obtain their labor supplies. A farm labor profile specifying needs by skills and days has proven a most useful approach for us in Michigan. Similarly, more effective planning at the community, county, and regional levels should result in fuller employment for the farm work force through a better distribution of workers.

Table 1. Average Number of Days Worked and Wages Earned at Farm and Nonfarm Wage Work, For All Farm Wage Workers, by Selected Characteristics, 1968^a

Selected Characteristics	Number of Workers Thous.	Farm and Nonfarm				Farm				Nonfarm			
		Days Worked	Wages Earned		Per Day ^b	Days Worked	Wages Earned		Per Day ^b	Days Worked	Wages Earned		Per Day ^b
			Dol.	Per			Dol.	Year			Dol.	Year	
		No.			Dol.	No.			Dol.	No.			Dol.
ALL WORKERS, 1968	2,919	116	1,346	11.60		79	834	10.55		36	512	14.20	
COLOR AND SEX													
White	2,225	121	1,481	12.25		81	883	10.90		40	598	14.95	
Nonwhite	693	99	913	9.20		74	677	9.15		24	235	9.80	
Male	2,111	137	1,675	12.20		94	1,027	10.90		43	648	15.05	
White	1,700	140	1,780	12.70		93	1,050	11.30		46	729	15.85	
Nonwhite	411	125	1,245	9.95		98	931	9.50		27	313	11.60	
Female	808	60	485	8.10		40	329	8.20		20	155	7.75	
White	526	60	515	8.60		40	341	8.50		20	173	8.65	
Nonwhite	282	61	430	7.05		40	307	7.65		20	122	6.10	
CHIEF ACTIVITY													
Farm work	784	211	2,448	11.60		199	2,274	11.40		12	174	14.50	
Farm wage work	649	239	2,745	11.50		228	2,598	11.40		10	147	14.70	
Without nonfarm work	525	240	2,755	11.45		240	2,755	11.45		--	--	--	
With nonfarm work	124	231	2,701	11.70		176	1,931	10.95		55	769	14.00	
Other farm work ^c	134	78	1,011	12.95		58	708	12.20		20	303	15.15	
Nonfarm work	373	224	3,511	15.65		39	456	11.70		185	3,055	16.50	
Unemployed ^d	37	--	--	--		--	--	--		--	--	--	
Not in labor force	1,725	50	388	7.75		34	271	7.95		15	117	7.80	
Keeping house	449	43	339	7.90		33	269	8.15		10	70	7.00	
Attending school	1,107	53	383	7.20		35	263	7.50		18	120	6.65	
Other	170	50	545	10.90		35	326	9.30		15	219	14.60	

(continued)

Table 1. (continued) Average Number of Days Worked and Wages Earned at Farm and Nonfarm Wage Work, For All Farm Wage Workers, by Selected Characteristics, 1968^a

Selected Characteristics	Number of Workers Thous.	Farm and Nonfarm			Farm			Nonfarm		
		Days Worked	Wages Earned		Days Worked	Wages Earned		Days Worked	Wages Earned	
			Year	Per Day ^b		Year	Per Day ^b		Year	Per Day ^b
		No.	Dol.	Dol.	No.	Dol.	Dol.	No.	Dol.	Dol.
DURATION OF FARM WAGE WORK										
All workers	1,299	59	789	13.35	10	85	8.50	48	703	14.65
Less than 25 days	731	78	823	10.55	45	398	8.85	33	424	12.85
25-74	308	154	1,687	10.95	108	1,089	10.10	45	598	13.30
75-149	256	214	2,268	10.60	200	2,044	10.20	14	223	15.90
150-249	324	318	3,705	11.65	312	3,616	11.60	6	89	14.85
250 and over										
All workers who did 25 days or more	1,620	162	1,793	11.05	135	1,434	10.60	27	358	13.25
Migratory	279	124	1,562	12.60	80	917	11.45	43	644	14.95
Nonmigratory	2,640	115	1,323	11.50	79	825	10.45	36	497	13.80

Numbers of workers are rounded to the nearest thousand without being adjusted to group totals.

^aDoes not include the value of perquisites.

^bRounded to the nearest 5 cents.

^cIncludes operating a farm and unpaid family labor.

^dAverages not shown where base is less than 50,000 persons.

Source: *The Hired Farm Working Force of 1968*. USDA, Agr. Econ. Rpt. No. 164, pp. 15, 16, and 18.

Better Use of Existing Farm Labor Supply

Employers need to explore new avenues for making better use of the existing supply of farm workers--both year-round and seasonal workers. Young people, available during the summer, and women provide employment possibilities that have not been fully utilized. Further, a breakdown of jobs by specific tasks could lead to better labor use and broaden the employment horizons of some employers. It may mean that a worker formerly believed to be unemployable could be incorporated in the farm work force. A task breakdown also lends itself to more accurately matching the skills required for the time required with available workers. For example, a task analysis may lead to employing a highly skilled mechanic on vacation from his nonfarm job for 10 days during the harvesting season.

Discrimination

Our society assigns a low status to hired farm employment. Accordingly, reverse discrimination, or employer discrimination, influences the availability of labor to farm employers and is a vital supply consideration. Farmers from small or inefficient units, many of whom would earn more income by working for another farmer, seldom are willing to do so. In general, our land grant institutions and the agricultural establishment have tended to encourage young people to place a high value on farm ownership and operation--farm ownership representing the pinnacle of the tenure ladder. A forfeiture of the owner-operator role in favor of the employee role generally does not carry societal condonement.

The image of the farm worker is often something less than desirable, and it is not entirely because of the arduous nature of the work or the long hours and low pay usually associated with such farm employment. Accordingly, employment services often find it difficult to place a worker in a farm position although he may have had farm experience. A study of hired workers on Michigan dairy farms by Charles Given and James Hundley of the Rural Manpower Center points to the low status of the dairy farm employee and to the lack of community acceptance of these hired farm workers [2].

Although all farm employment tends to rank low on the status scale, the apparent hierarchy places farm employment by public institutions above farm employment on large private farms, which in turn is above employment on small private units.

In an effort to change the image of farm work some employers refuse to use the term hired hand or even hired farm worker. Instead they use more socially acceptable terms like production associate or assistant manager. In spite of the best efforts to counteract this image reverse discrimination will, no doubt, plague agricultural employers long after other labor problems have been solved.

Demand for Farm Workers

The substitution of capital for labor and the mechanization associated with this substitution has resulted in drastic reductions in total farm labor inputs. The reduction in the number of farm operators, family farm workers, and hired workers is well established.

The impact of mechanization has been uneven with some activities being rapidly mechanized and others showing little progress in this direction. In fruit and vegetable harvesting the degree of mechanization is determined by a variety of factors, availability of workers, engineering and horticultural technology, various cost relationships, and the like. As mechanization has expanded the patterns of employment have been disrupted, particularly for seasonal workers who move from area to area and crop to crop.

Present Demand for Seasonal Workers

The harvesting of fruits and vegetables is the primary farm activity requiring large numbers of seasonal workers. The numbers of workers and the month of peak seasonal employment in 1968 is given in Table 2. Strawberry

Table 2. Estimated Peak Seasonal Employment by Major Crop, United States, 1968 ^a		
Crop	Peak Seasonal Employment, 1968	
	Number of Workers ^b	Date
Strawberries	119,000	June
Tomatoes	84,900	September
Beans	77,900	August
Bushberries	57,500	July
Apples	57,300	October
Grapes	53,000	September
Potatoes	52,600	October
Cucumbers	46,900	August
Citrus fruits	42,100	December
Peaches	37,400	July
Cherries	31,700	July

^aCrops listed are those in which 30,000 or more seasonal hired workers were employed at midmonthly peak.

^bEmployment in all activities including planting, cultivating, and harvesting.

Source: Bureau of Employment Security, In-Season Farm Labor Reports for the 15th of each month.

harvesters lead the group with 119,000 workers employed in the peak month of June. Tomatoes, beans, bushberries, apples, grapes, potatoes, cucumbers, citrus fruits, peaches, and cherries all required more than 30,000 workers during the month of peak employment.

Migrant workers, both intrastate and interstate, provide much of the harvest labor. The 10 states employing more than 10,000 migrants during the

month of peak employment are shown in Table 3, along with the periods of employment and the month of peak employment. California leads with 62,000 workers employed in September of 1968, and Michigan was second with 40,000 workers employed in August of 1968.

Table 3. States Employing More than 10,000 Domestic Migratory Workers at Peak Employment and Number of Workers Employed, Periods of Employment, and Month of Peak Employment, 1968 ^a			
State	Peak Number Migrants Employed	Periods of Employment	Peak Employment
California	62,500	Jan.-Dec.	September
Michigan	40,000	Apr.-Nov.	August
Florida	21,500	Jan.-Dec.	February
Texas	19,800	Jan.-Dec.	July
Ohio	18,500	May -Oct.	September
New York	14,800	May -Nov.	September
Oregon	13,300	Jan.-Dec.	August
Oklahoma	13,000	Jan.-Dec.	June
Washington	12,500	Jan.-Dec.	June
New Jersey	12,100	Apr.-Nov.	August
^a Migrants include intrastate and interstate workers.			
Source: Bureau of Employment Security, U.S. Dept. of Labor.			

Future Demand for Seasonal Workers

Worker requirements are rapidly changing under the impetus of mechanization. Beans, potatoes, processing tomatoes, pickling cucumbers, and many other vegetables are destined to be harvested almost entirely by machines within the next few years. Most of the cherries and bushberries will also be harvested mechanically by the early 1970's. Peaches, apples, and grapes show less likelihood of extensive machine harvesting, and strawberries and citrus fruits are the two crops showing the least promise in the application of machine harvesting.

The replacement of workers by machines involves the creation of new jobs as it abolishes old ones. Let us not be misled by the mechanization myth. There will still be a need for seasonal workers; the human factor will still be important in agricultural harvesting. There will be changes in the demand requirements both in quantity as well as the skill requirements.

The ratio of workers required with machine harvesting compared to workers required without machine harvesting varies. The cherry shaker involves the employment of approximately 5 workers where 150 were hired previously, a ratio of 1 to 33. It would appear that the pickling cucumber harvester involves a worker ratio of, perhaps, 1 to 70. When the various ratios are considered, the number of workers employed in the harvesting of various crops and other factors, a 50% decline in the man-hours required in harvesting fruits and vegetables does not appear to be unlikely during the next five years: However, this is somewhat misleading.

The effective demand for workers will remain relatively unchanged for some crops; i.e., strawberries. There will be far less complementarity of employment in agricultural harvesting activities from state to state and crop to crop, and the demand for workers will involve fewer days of work. In short, the total seasonality of work will be accentuated. For example, most of the workers who were traditionally needed in Michigan to work in strawberries, and subsequently cherries and cucumbers, will with mechanization only be needed for work in strawberries.

New jobs will be created which require some degree of mechanical skill. For a small percentage of seasonal workers who possess these skills there will be work opportunities.

In addition to reducing the number of workers required mechanization, through its disruption of employment patterns, will increase the demand for seasonal workers residing in local areas as these jobs become less attractive to migrant workers. School youth and housewives who reside in the communities where they are employed have traditionally provided a large part--perhaps half--of the work force. The demand for these local workers will increase.

For some migrant workers, where complementary work opportunities can be devised or where special skills are required, limited job opportunities will remain. The changes in the demand pattern for all seasonal workers, both in terms of numbers and skill requirements, suggest the need for further exploration of farm and nonfarm work combinations to overcome the serious agricultural employment problem due to seasonality.

Mechanization will also increase the demand for more highly skilled year-round workers on all farms. The hired hand of the past will find fewer job opportunities unless he is capable of coping with the more sophisticated machines and methods employed on all modern and increasingly industrialized farms.

In short, the demand for workers in fruit and vegetable harvesting appears to be strong for skilled year-round hired workers, local seasonal workers both skilled and unskilled, and semi-skilled migrant workers, recognizing that the overall demand for all workers in agriculture other than year-round hired workers will decline significantly.

Skills and Training

Many different skills are required in farm work; yet the generic term "farm work" is applied to most workers. The *Dictionary of Occupational Titles* has classified agricultural jobs, but this has not proven very helpful where less specificity is needed. The lack of any meaningful and useful classification of farm jobs has inhibited the development of training programs designed to teach appropriate skills. As mechanization increases the need for workers with these skills will increase. Recruitment has also been hampered by the lack of adequate job descriptions.

A classification should be developed that includes the basic job requirements without losing its meaning in detail. Training programs could be developed around this classification. Three basic points around which a classification might be developed are: (1) the worker in relation to machines; (2) the worker in relation to animals; and (3) the worker in relation to people. Using this simple framework job descriptions and titles within each category might be developed, and training courses of varying intensity might be devised.

New jobs for farm workers will emerge as mechanization is increased, not only in machinery operation but also in machinery maintenance and repair. There will be additional jobs in sorting, culling, and various packing operations that will be required as a result of using machines for harvesting in lieu of human hands.

Training, both on the job and off the job, is essential for most farm workers. While some workers will continue in farm work and perform better because of the training, others will use these newly acquired skills in nonfarm jobs. Accordingly, the transferability of skills is an important consideration in farm worker training programs.

A basic problem in training is the low level of education among farm workers. In 1967 farm workers had a median of 9 years of schooling compared to 12.3 years of schooling for all workers. Further, it would appear that there has been little change in the level of education of farm workers over the years, a fact which is attributed in part to the shift of those workers with higher levels of education out of farm work. Basic education becomes a parallel challenge to those who would develop programs to upgrade worker skills.

The Farm Labor Market

In general, wage rates in the farm sector have been less than half those in the nonfarm sector. The average factory production worker wage in the U.S. in 1968 was \$3.01 per hour compared to the average farm wage of \$1.43 per hour [6].

The relatively lower wages in the farm sector of the economy as compared to wages in the industrial sector is attributed by many agricultural economists to the dynamic disequilibrium in the farm labor market. If this were the case, as workers leave the farm sector and the labor force is reduced, the returns to those workers should increase relative to the returns of workers in the nonfarm sector. However, large movements of workers out of the farm sector have not increased the relative wage position of farm and nonfarm workers. Indeed, the gap between the returns to the workers in these two groups continues to widen, both absolutely and relatively.

Galloway suggests that there is a permanent relative income disparity between farm and nonfarm workers; and as such, there is dynamic equilibrium in the farm labor market [1]. He suggests that there is a two-sector labor market with essentially an inelastic supply.

It would appear that there is, in effect, a split labor market to the extent that there are barriers that tend to separate the two. The economic costs involved in moving as well as the many social and psychological barriers to shifting into the industrial labor market are major considerations for the would-be migrator. The shadow price of industrial wages, when discounted for these costs involved in moving, makes industrial wages far less attractive.

More significantly, the quality of the farm work force is such that it cannot command higher wages. Actually, the wage worker in farm work possesses a different skill level than the wage worker in nonfarm work, and it is increasingly evident that the skill level is an important ingredient in determining wages. Unskilled workers command less--in both farm and nonfarm work--than do those workers who have more to offer. The skill dimension is, in part, the answer to the wage differential between farm and nonfarm work. It is supported by the fact that farm wage workers doing both farm and nonfarm work earned relatively less in nonfarm work than might have been anticipated from sectorial wage comparisons. Further evidence, among others, is provided in Hathaway's study of mobility where it was indicated that unskilled workers who migrated to nonfarm work earned less than they had earned before migration [3].

Farm Workers and Rural to Urban Migration

Any consideration of the manpower implications of agricultural technology must take into account the impact of this technology upon rural to urban migration. From 1960-66 the average annual net outmigration of the farm population in the U.S. was 804,000. Many of these were farm laborers.

The hidden element in migration is the back-movement of people who, for a variety of reasons, find adjustment difficult. The large back-movement of rural people suggests a high expenditure of economic and emotional energies as those who migrate continue to search for a way of life that is acceptable.

Mobility is highest among the young, the healthy, the better educated and skilled, and the unencumbered, without families or vested interests. These workers are most likely to be able to afford the risk of failure--economically, socially, or psychologically.

Rural-urban migration has two forces operating simultaneously, the *pull* of nonfarm opportunities and industrial employment with its ancillary changes in mode of living, the attraction of the cities, and higher wages, either real or imaginary. It is this seemingly positive force, voluntary migration, that has received most attention in the past from students of migration. More recently it has been recognized that much of the migration is indeed involuntary and that many workers have been dispossessed; they have been pushed out of agricultural employment. This force is recognized as the *push* in migration, and it appears to be most forceful in highly developed economies where large numbers of workers are displaced as a result of rapid agricultural mechanization. This is the case in the U.S. today; many workers migrate to the cities

not because it is an attractive alternative but merely because it is the only alternative for employment. It is hypothesized that the *push* force becomes increasingly greater as societies become more highly industrialized and more highly developed.

Farm Labor Management

It would appear that considerable progress has been made during recent years in sensitizing farm employers to the needs of workers and the importance of a positive work environment in recruiting and maintaining a productive farm work force; however, a comparative look at employee-employer relations in the nonfarm sector indicates the massive effort needed in order to upgrade the quality of farm labor management on many farms. The industrialization of agriculture may well bring greater managerial expertise in this area and create a labor management environment more nearly alike and more competitive with the nonfarm sector.

The importance of good employee-employer relations on fruit and vegetable farms is well documented by the study *Human Relations on Michigan Fruit and Vegetable Farms* by Maurice Volland, Charles Given, and William Vredevoogd, in which the authors point out that the quality of human relations is oftentimes more important to workers than wages or fringe benefits [7].

The productivity of labor is partially a function of the existing work environment as perceived by the laborer. A successful working arrangement between management and labor takes cognizance of certain needs which must be fulfilled if labor is to be highly motivated and productive.

1. Every worker wants to be respected as a human being and someone with dignity.
2. Most workers want to accept responsibility. It builds their confidence and enhances their self-esteem. While the situation may vary from worker to worker, the lack of willingness to assign greater responsibility to workers is a problem in obtaining and keeping high quality labor in agriculture. Every worker has capacity for accepting responsibility for certain tasks and assignments. It is management's job to seek out those areas where responsibility might be appropriately assigned.
3. Many workers want an opportunity to grow. This is particularly true of the more highly motivated individual. If farm employers expect workers with growth potential to remain in their employment, they must provide opportunities for learning and growth. Growth has many dimensions; among them are job title, community acceptance, and wages. The means and measure of growth are manifold.
4. Workers need to feel that they belong. Psychologists tell us that everyone has a basic desire to be accepted as a member of

a group. Translated in the agricultural worker-management relationship, this means creating the kind of social atmosphere in which the worker does feel that he is a member of the team, an important member of the team, and an important member of the community where he lives.

Management Sharing.--As agricultural operators seek new arrangements in order to interest and hold higher quality workers, meaningful arrangements to involve workers and help them grow and develop, some type of management-sharing may well be considered. In the continuum of decisions made by the farm operator there is considerable variation in the consequences which each decision sets in motion. By careful analysis of the worker and his ability to contribute, workers could be effectively linked into the decision-making processes. Such involvement would, obviously, vary greatly with the worker and the farm situation; but such an approach is a step in the direction of satisfying some of the basic needs of labor.

Conclusion

Increasingly the sanctity of resource ownership and absolute authority in employment is being questioned by those who would contend that ownership is, in fact, a trusteeship and that employment includes certain rights and privileges for employees as well as employers. In line with this employers, both public and private, no longer operate in a vacuum. Indeed, they operate in a glass house with public forces dramatically influencing the decisions which are made.

The application of the industrial rules to agriculture is increasing in momentum. Legislative exemptions for farm employers are fewer than a decade ago with minimum wages and workmen's compensation applying in many employment situations. The social pressure for removal of special exemptions for agricultural operators is apparent. Along with extended legislative coverage for farm workers both at the state and federal levels, union participation is becoming a reality. The impact of these developments in terms of public welfare, equity, and social justice needs further analysis.

The close interrelationship between farm workers and rural manpower and rural poverty provides a complicated backdrop against which new legislation and farm labor developments must be analyzed. While most farm workers earn less than \$3,000 per year, so do many small operators. Further, as the skill requirements and the wage requirements rule out the employment of the residual element in the farm work force, extensive welfare problems will be created.

This colloquium is singly significant in that it brings a human resource dimension to agricultural technology, a dimension heretofore absent. The marvels of technology open the door to a host of human problems. Inadequate planning and a lack of coordination at all levels of government have left serious human adjustment problems in their wake. It is these human adjustment

problems, the manpower implications of mechanization in the harvesting of fruit and vegetables, that command our attention at this colloquium.

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PEOPLE AND MACHINES - LABOR IMPLICATIONS
OF DEVELOPING TECHNOLOGY*

John R. Wildermuth and William E. Martin

Can it be that labor, like potatoes, has become an inferior good?
--Anonymous

The objectives of this paper--to indicate the process by which labor is displaced by machines and to highlight the important features of the resultant operator-worker-machine continuum--open the doors for a good deal of discretion in subject matter development.

It would be possible, for example, to "rally round the flag" and play the emotional themes of the importance of a healthy atomistic agriculture, of the necessity of an abundant supply of fruits and vegetables, and of the impending doom to be brought about by an underfed overpopulation. The following statements, extracted from the report on Phase I of this project, are offered as witness to the popularity of such appeals:

Increased costs and lack of availability of harvesting labor will restrict expansion of production of some fruit or vegetable crops if mechanical harvesting techniques are not available. In some cases, the restrictions will be so severe as to reduce the acreage or even eliminate the crop. [2, p. 5].

High costs of handpicking, difficulties in labor procurement, minimum wage and minimum age legislation, social and medical benefit programs, housing--all of these add to the cost-price squeeze which has forced fruit growers to grasp every opportunity to reduce growing, harvesting, and handling costs. [4, p. 687].

If the grower makes a profit, it means that the system is efficient--and we must be efficient. The problem of feeding over 200 million Americans and the billions of people in the world is of utmost importance. [5, p. 85].

These are only a few of the statements and but from one source which could have been selected as representing one chain of thought relating to mechanization in the fruit and vegetable industry.

Alternatively, this paper could converge on the even more emotional but less popular theme (at least among the technologically oriented) inherent in the following statement:

. . . the mechanization of agriculture can bring tears and heart-ache to thousands of unskilled workers and their families who cannot by themselves solve their economic problem. [11, p. 69].

We (the authors) have a great deal more sympathy for the second line of reasoning. Certainly the consequences of the worker's plight are currently far more important and perplexing than the consequences of relative changes in the availability and cost of selected fruits and vegetables. For those who question the validity of this assertion, we ask that you recall Watts, Detroit,

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the Poor People's March on Washington, and the many other recent indications that, notwithstanding aggregate welfare increases, the greatest labor implication of all is the problem of the widening gap between "those that have" and the "have nots."

In the past the institutions fostering agricultural research, extension, and education have always sought to answer agricultural problems with the "two blades of grass" philosophy--increases in technology and economic efficiencies of production. To us it is painfully obvious that the old "two blades of grass" philosophy provides an insufficient if not totally outmoded basis for preparing for the future. "Agricultural research and education including agricultural economists must recognize that galloping knowledge and technology of production efficiency aided and abetted by them are no longer sufficient solutions--may, in fact, be exacerbating the problems of agricultural and rural life." [3, pp. 8-9].

Our discussion will show why that statement by Kelso and Hillman is particularly relevant to the theme of this conference. A theoretical treatment of the character of capital intensive technological change will bring out the major reasons for and consequences of labor's inevitable displacement by machinery. We will point out that by the very nature of the mechanization process traditional approaches to the improvement of "labor's lot" are doomed to fail. Finally we will close with a plea for policies and institutions designed to combat social problems not just in the light of yesterday's innovations but simultaneously with tomorrow's inventions.

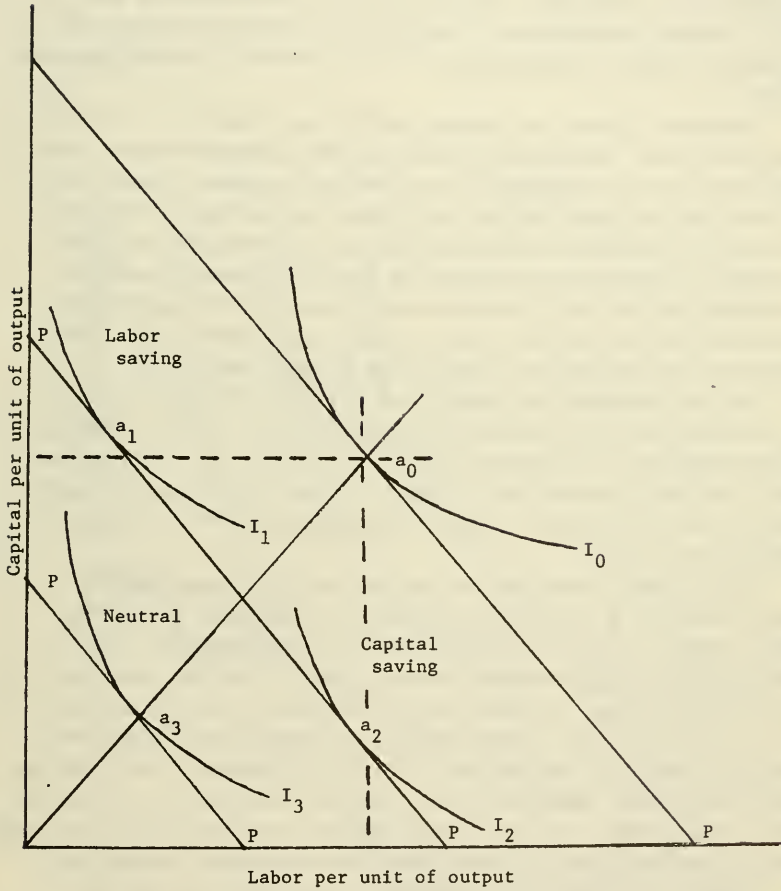
The Nature and Significance of Labor-Saving Technologies

Salter [8] distinguishes between inventions and innovations as follows. Inventions alter the state of our technical knowledge; but it is only when they become a "best-practice technique," (i.e., the technique which with regard to both economic and technical conditions yields minimum costs in terms of the production function and relative-factor prices at each date) and are put into use that they should be referred to as an innovation. Innovations, then, are the vehicles of technical progress.

Innovations may be classified as labor-saving, capital-saving, or neutral, depending upon whether they raise, lower, or leave unchanged the capital-labor ratio. These three classifications can best be conceptualized in terms of the familiar two factor unit isoquant diagram (Figure 1). Assuming constant relative prices, the most efficient combination of capital and labor is at point a_0 for the old technology (I_0) and at point a_1 , a_2 , and a_3 respectively, after the introduction of a labor-saving (I_1), capital-saving (I_2), and neutral (I_3) innovation.

We will concentrate on innovations which involve the direct substitution of capital for labor and not discuss in detail the implications of type I_2 (capital-saving) or type I_3 (neutral) innovations. However, it should be noted

Figure 1: An Illustration of the Various Types of Technological Change



that these two types of technological change can also lead to reductions in labor use. For example, since neutral innovation leads to unit savings in both factors, the induced output response, especially in the face of a relatively inelastic demand, could hardly be expected to result in the level of labor use associated with operation at a_0 on I_0 .

In reality, of course, prices do not remain constant as we have assumed in Figure 1. As in the case of the fruit and vegetable industry, the advent of labor-saving innovations is induced not only by inventions which lower the price of capital goods relative to labor but also by absolute increases in the wage rate which increase the price of labor relative to existing mechanical devices.

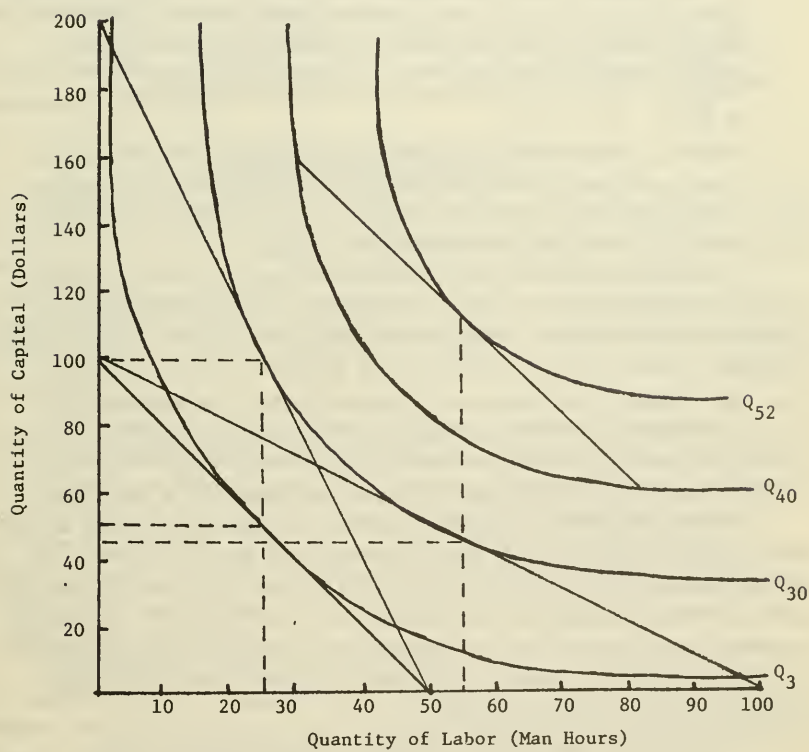
We present Figure 2 to illustrate capital-labor substitution induced by rising wage rates. The curves Q_3 through Q_{52} show alternative ways of producing given quantities of a hypothetical fruit from a given acreage. Assume that the going wage for labor is \$1 per hour. Thus, the line between 100 and 100 in Figure 2 represents the various combinations of machinery and man-hours which could be employed by an operator who had \$100 to spend on production. The operator bent on profit maximization would select in this case to employ 55 man-hours of labor and \$45 of capital machinery. No other capital-labor combination totaling \$100 will yield as high an output level as Q_{30} .

The line connecting 100 (capital) and 50 (labor) is drawn to illustrate the reaction of the profit maximizing entrepreneur, still with only \$100 to spend on production, as the price of labor rises to \$2 an hour. The maximum profit position now involves \$50 of capital, 25 man-hours of labor and output level Q_3 . Note that output and labor use have decreased while investment in machinery has increased.

In fact there is no reason for the total production expenditure to remain constant (e.g., at \$100) in the face of rising wages. As depicted, higher production costs will cause operators to reduce production. But, as total production falls the product price will tend to rise and induce some re-expansion in output. It is highly unlikely, however, that the wage increase could be absorbed by the industry without a reduction in the original labor force of 55 man-hours. For the wage increase to be absorbed at the 55 man-hour labor force, product demand would have to increase enough to require a maximum profit output of Q_{52} . This implies that consumers would be willing to buy larger quantities of the product at a much higher price--an obvious contradiction.

Consumer demand will increase slowly over time for most fruits and vegetables due to population increases, rising standards of living, etc. Eventually the higher wages for an equal size work force would be possible--but not for some time after the wage hike [7, p. 110]. A more likely eventuality is that production will rebound but labor use will not. A rise in wage rates not only causes a shift towards existing capital intensive technologies but also hastens the search for new labor reducing technologies.

Figure 2: An Illustration of Capital-Labor Substitution Induced by Rising Wage Rates



Returning again to Figure 2, assume that the demands of farmers and legislators for relief from the infamous "cost-price squeeze" leads agricultural experiment station researchers to develop a more efficient form of capital. The price of labor remains at \$2 per man-hour but \$1 of the "new capital" is equivalent to \$2 of the old capital. For his same \$100 the farmer is now able to buy 200 units of the old capital, or any equivalent combination of the new machinery and man-hours (i.e., the line connecting 50 (labor) and 200 (capital) is now appropriate). Our profit-minded man now expands his production back to the original Q_{30} level and employs 25 man-hours of labor and the equivalent of 100 units of the old capital. Surely 30 man-hours of on-farm employment are now gone forever. There is no reason not to expect this process to be repeated over and over again.

How are the Costs and Benefits Divided?

This tendency to use more capital and less labor in agricultural production will not be reversed as long as agricultural businessmen tend to attempt to maximize profits--the social results of this tendency are both good and bad. A cost-efficient agriculture produces inexpensive abundant food. A labor-efficient agriculture frees our labor force to produce the many other nonfood items that we desire. [7, p. 111].

Virtually everyone would acknowledge that the general consuming public is the prime beneficiary of increased food and fiber production efficiencies. But, how about effects on particular sectors of society? What does mechanization mean to the farmer and his relationship to labor?

The impact on the farm operator is dependent upon his ability to make economic adjustments which in turn is increasingly associated with access to capital. Under the best of circumstances mechanization results in opportunities for higher per unit profits (at least in the short run), expansion of farm size, less drudgery, and, perhaps most noteworthy here, *less dependency on labor*. But whereas on the one hand mechanization enables the operator to avoid raising the wages of his unskilled workers, at the same time mechanization dictates a more highly skilled work force that can commandeer a higher wage.

For the operator who is unable or unwilling to make the necessary adjustments there has been and can be only one outcome--his inevitable demise. We may hypothesize that the individual either: (1) retires on his realized capital gains; (2) uses his managerial knowledge and skills to find gainful employment elsewhere, which combined with his realized capital gains yields a satisfactory if not a high level of income; or (3) becomes a member of the disadvantaged working classes to which we now turn.

But certain unsophisticated segments of our population need opportunities for simple, often seasonal, labor that agriculture has provided in the past. The only other alternative for many of these people in our modern, complicated society is a subsistence on welfare. [7, p. 111].

While the aggregate impact of mechanization on the demand for hired labor is undeniable, the effect on the individual worker is dependent upon his occupational class. For those possessing technical or supervisory skills, mechanization can mean opportunities for advancement in the form of higher pay or improved working conditions. At the same time it will undoubtedly lead to increased responsibilities and more complex work roles. But, even at best, it also means increased competition for a smaller number of available jobs as laborers whose work roles have been rendered obsolete try to sustain themselves within their environment. Technical or supervisory personnel may also find their work roles eliminated as the result of mechanization (e.g., labor contractors are a vanishing breed).

What about the unskilled marginal or obsolete worker? Their situation may be improved substantially (i.e., they move up into the higher occupational classes mentioned above or more likely they are forced out; they go on welfare or find unskilled jobs elsewhere).

If this all seems to present a pessimistic outlook it is because there is good reason for pessimism; and as we will now point out, improving on these prospects is not easy.

The Ineffectiveness of Traditional Approaches to Improve the Farm Workers' Lot

Three general approaches have traditionally been advocated by those interested in improving the lot of the farm worker. They are: (1) to eliminate foreign worker competition; (2) to provide bargaining power for domestic workers through some sort of union arrangement; and (3) to prosecute a vigorous federal manpower policy. Given the structure of our current social attitudes and institutions, each is doomed to ineffectiveness if not to failure. We will explain why.

First, there is foreign worker competition. Before the termination of the Bracero Program (Public Law 78) in 1964, those people with the welfare of the farm worker at heart apparently believed that if only the foreign worker were eliminated jobs for domestics would be available in something close to a one-to-one substitution ratio. On the other hand, those people who were opposed to termination of the program talked as if crops would rot in the field no matter what wage rate was paid and that our consumers would be virtually without fruits and vegetables.

The proponents of both views were obviously either extremely naive or they were using emotional appeals to further their own personal interests. We suspect that the former reason applied to the termination advocates, the latter reason to most of the opposition.

The actual results should have been predictable--capital was substituted for labor on the farm and increased effort was exerted by the agricultural engineers in providing the farmers these capital alternatives. At the end of

the year following termination of the program, one of the present authors noted that "by the most liberal estimates, it took a reduction of 43,700 foreign workers to increase our domestic labor use by 11,800--without significant reduction in production of most crops" [6, p. 1144]. We note that in the next year (1966) employment of domestic migratory workers had fallen to the lowest level since 1949 [11, p. 58]. All of the political effort expended merely caused farmers some confusion for a year or so, hastened the trend toward mechanization and an all domestic farm labor force that was already under way, and provided further incentive for foreign producers to compete in United States markets.

The second approach advocated is to increase the farm worker's bargaining power. Cesar Chavez and his United Farm Workers Organizing Committee are currently creating considerable confusion with this approach. It is obvious that unionization can bring advantages to certain people and particular groups of people. Yet this approach, too, has its inherent weaknesses.

An intriguing example of the unexpected effects of an earlier experiment in farm worker unionization was described by Padfield and Martin [7]. The needed control over the harvesting process of the Western lettuce industry was achieved in the late 1940's and early 1950's through working agreements between management and organized labor. However, unsophisticated groups of workers such as Mexican-American migrant families, Filipinos, rural Negroes, and Indians did not (and probably still do not) revolve around institutions compatible with union institutions. Therefore the union movement tended to be ethnically selective. The more sophisticated classes of Anglos and Mexican-Americans built a labor monopoly out of their technological role. These developments created further effects on both labor and management.

While an exclusive and tightly knit labor organization was of enormous benefit to certain groups of lettuce workers, it also served to keep rights to production, shipment, and marketing in the hands of certain ice companies and certain lumber and labeling companies. The shed technology became a monopoly of congeries of organized, cooperative interest groups. Thus the incentive for a technological breakthrough that would allow outsiders to side step the tremendous investments and costs of the shed complex became stronger and stronger. Simple labor-saving machinery was not the answer. It has to be something which would throw production completely outside the tightly integrated network of control of the shed system. [7, p. 284].

In this case the technological breakthrough of portable vacuum cooling against a background of a high labor cost shed packing operation broke the whole system apart. The packing operation went to the fields using huge, cheap supplies of well controlled foreign labor.

Social and economic ramifications unfolded in inseparable order. The Mexicanization of a predominately Anglo occupation, a rapid acceleration of importation of Mexican workers (both bracero and green carders), a boost to the bracero economy of Mexico, the rise of border commuter communities, the rapid

decline of Anglo communities centered around the shed economies, such as El Centro and Yuma, are some of these ramifications. Moreover, the industry was opened to unlimited acreages and production. Vast areas of desert and range land, previously locked out by a shed-centered technology, were opened up for lettuce cultivation. And finally, unforeseen by the innovators themselves, was the inevitable rise of government as a first party representative in labor grievances and negotiations.

Especially important from a sociological standpoint is the fact that, on the whole, the shed workers, a technical elite class in the old technology, did not step down in the occupational status system of the new technology. They were *displaced*. A completely new occupational status system grew up in which their institutions had no place. [7, p. 285].

It is unlikely that we will again see the rise of a labor intensive technology in the face of growing unionism and rising labor costs--the elimination of our foreign labor program has seen to that--our point is that the effects of increased bargaining power are many and diverse. The group that initiated bargaining is by no means the necessary recipient of income gains.

Finally, there has been much recent interest in government manpower policy--that is, retraining and general education activities. It is easy to recommend this policy because "the pursuit of knowledge is a noble activity in its own right" [10, p. 272]. It is still worthwhile even if it does not get the recipient a job. However, Sultan and Prasow have shown that "the value of labor is not simply determined by the position and elasticity of the labor supply schedule; and the individual's employability is not simply a function of the quality of service he offers potential employers" [10, p. 273]. It is true that only marginal workers are unemployed, but it does not necessarily follow that because some workers are marginal they are unemployed. Of great importance is the level of labor demand and it *is not* necessary that technological change raises this level in our developed economy [10].

What do you train people to do? Perhaps it need not be always true, but Brill [1, p. 30] alleges "that large numbers of technological left-behinds are often instructed in occupations which existed long before they did, require little if any training, and perhaps more to the point are not going begging for applicants."

Where to Now?

We hope that we have been successful in leading you to the same conclusion that we and many others before us have reached: the problems created by mechanization may in fact be more complex than those it solves. Certainly they are more side sweeping than has traditionally been acknowledged in public supported teaching, research, and extension programs.

Kelso and Hillman make their plea through reference to the cotton industry:

When the cotton picker was developed, agricultural intellectuals including agricultural economists should have studied the problems of adjustment forced on cotton field hands, should have assessed the social costs, should have devised institutional reforms to cushion the shock and the cost--a cost which should have in some way been shared by cotton producers, the cotton processing and merchandising industries and, of course, by the cotton consumers. Had we done so who can now say how much less frightening would be our civil rights, urban ghetto, and urban living problems? And partly because we failed to learn from that experience, we go blindly forward developing tomato harvesters, field lettuce cutters and field lettuce packing technologies, milk production factories, and the thousand and one other forms of technological efficiency. [3, p. 9].

Or in the words of Shaffer:

A system for anticipating the negative effects of a new technology is sorely needed. We cannot afford to wait for the problem before solving it. *The institutional innovations will have to be developed as joint products with the technology.* [9, p. 265].

Such conclusions are sobering. They basically amount to an attack on our nation's entire value and rewards structure. They dictate that this nation publicly acknowledge the existence of those that lose as a result of advances in the general welfare. They imply that completely new institutions must be developed to attack the unsettled problems created by yesterday's and today's technological advances and that these institutions must in turn evolve into an appropriate form for combating the externalities of tomorrow's technological advances.

We are not sure of the exact form that these institutional innovations should or will take. However, in developing them, it must be recognized that any solutions that attempt to solve the problems while accepting without question the objectives and methods of either management or labor can only be stop-gap measures shifting the burdens and costs of automation from one individual or group of individuals to another and from one area of a country to another. We assert that the implied final plea is self-evident: Whatever form they take, the needed institutional innovations must be adapted not just to the progress of "economic men" in the competitive market but to the progress of "real men" in their social environment.

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LABOR MARKET BEHAVIOR

James S. Holt

The nature of agricultural production gives rise to seasonal fluctuations in labor requirements and labor demand. In the past decade the seasonality of hired farm labor demand has increased [5]. Periods of peak and slack labor demand have been one of the principal farm labor problems for farm operators and workers alike for many years. Seasonality is a problem for workers because it reduces employment and earnings and creates uncertainty. It is a problem for employers because it creates the need for annual recruitment and training and is an additional source of uncertainty in production planning.

For many workers the need for income and the desire for employment are continuous. In order to prolong their period of employment, some workers have sought to combine a succession of short-term seasonal farm jobs into a continuous period of employment. One of the outgrowths of such efforts is our migratory farm work force. Farm manpower policy has encouraged and facilitated this combining or packaging of seasonal farm jobs, most notably, through the Annual Worker Plan.

Combinations of farm jobs and of farm and nonfarm jobs have been advocated as a means of ameliorating the unemployment and earnings problems of hired farm workers. Combinations of farm and nonfarm work in the same locale have been advocated as an alternative to migrancy. The purpose of this paper is to examine the component groups of the hired farm work force from the standpoint of their labor market behavior; to assess the likely impact of mechanization on these component groups, with special emphasis on multiple jobholders; and to offer some suggestions for dealing with manpower problems arising from the mechanization of agricultural jobs.

Labor Force Behavior of the Hired Farm Work Force

The annual *Hired Farm Working Force Reports* [3] provide the only source of national data on the labor market behavior of the hired farm work force. Data relating to chief activity for the entire hired farm work force are available only since 1962, so a rigorous analysis of trends is not possible.

From the standpoint of labor market behavior, the farm work force can usefully be subdivided into three groups: persons more or less permanently in the labor force who work at hired farm work only; persons permanently in the labor force who are multiple jobholders, that is, who combine farm wage work with other labor force activities during the year; and persons not usually in the labor force who work on a temporary basis to supplement their incomes.*

Workers who perform farm work only constitute about 17 to 20% of all persons doing farm work for pay during the year (Table 1). Their number has

*I am using the term "multiple jobholder" in a different sense from that in which it is frequently employed. In this paper, multiple jobholding is not equivalent to "moonlighting", that is, the holding of two jobs simultaneously.

Table 1. Hired Farm Work Force by Chief Activity, 1962 through 1967^a

Chief Activity	1962		1963		1964		1965		1966		1967	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
	1,000		1,000		1,000		1,000		1,000		1,000	
Hired Farm Work Only	616	17.0	685	19.0	629	18.7	631	20.2	460	16.6	582	18.9
Multiple Jobholders	1212	33.5	1047	29.0	916	27.2	797	25.5	746	27.0	726	23.6
Primarily Farm Wage Workers	171	4.9	139	3.9	190	5.6	177	5.7	139	5.0	156	5.1
Primarily Work on Own Farm ^b	359	9.9	327	9.1	218	6.5	143	4.6	158	5.7	166	5.4
Primarily Nonfarm Workers	411	11.3	379	10.5	412	12.2	390	12.5	403	14.6	378	17.3
Primarily Unemployed	271	7.5	202	5.6	96	2.8	87	2.9	46	1.7	26	0.8
Temporary Workers	1794	49.5	1866	51.9	1826	54.2	1699	54.3	1557	56.4	1769	57.5
Homemakers	635	17.5	571	15.9	548	16.3	473	15.1	320	11.6	442	14.4
Students	961	26.5	1099	30.6	1122	33.3	1074	34.3	1034	37.4	1155	37.5
Others	197	5.4	195	5.4	155	4.6	153	4.9	204	7.4	172	5.6
Total Hired Farm Work Force ^c	3622	100.	3597	100.	3370	100.	3128	100.	2763	100.	3078	100.
Annual Average Unemployment Rate ^d	5.5		5.7		5.2		4.5		3.8		3.8	
Index of Total Farm Output ^e (1957-59=100)	108		112		111		114		113		118	

^aPercentages may not add to totals due to rounding.^bWorkers who are primarily engaged in operating their own farm or as an unpaid family worker.^cSource: [3].^dSource: [4].^eSource: [2].

fluctuated considerably in the six-year period, 1962 through 1967, declining during periods of declining farm output and increasing in years of increasing farm output. On balance, the declines have outweighed the advances, and thus, the overall pattern has been one of declining employment with rising output. These workers are relatively fully employed, averaging about 250 days of work a year (Table 2). They have consistently averaged more days of employment than any other component of the hired farm work force (Table 3). They are the backbone of the hired farm work force, contributing more than half of the man-days of hired labor used on farms (Table 4).

Multiple jobholders in the farm work force have declined steadily in numbers and relative importance from 1.2 million workers, one-third of the total in 1962 to 726,000 workers, less than a quarter of the total in 1967. Almost all of this decline has been accounted for by a decline in farm operators and unpaid family workers who also do work on other farms for pay and in workers who are primarily unemployed but do some farm work for wages.* The decline in primarily unemployed workers doing farm work accompanied a substantial improvement in the national unemployment rate and underscores the effect of general economic conditions on the supply of farm workers. The decline in farm operators and unpaid family workers doing hired farm work may also be a response to more nonfarm employment opportunities as well as reflecting a decline in the number of marginal farm units.

By contrast, the number of multiple jobholders principally engaged in farm and nonfarm wage work has declined only slightly since 1962. In general, the decline in these two categories has paralleled the decline in numbers of workers doing only hired farm work, and suggest that these groups are not too responsive to changes in general economic conditions. One can hypothesize that the employment patterns of these workers are relatively stable and well adapted to the skill levels of the workers.

Multiple jobholders who are primarily farm wage workers constitute about 5% of the hired farm work force and perform about 10% of the man-days of hired farm work. They are employed about 175 days at farm work and about 220 days at all jobs. Although their daily earnings in nonfarm jobs are higher than in their farm jobs, there has been little change in the proportion of their work year devoted to farm and nonfarm work since 1962.

Persons who are engaged primarily in nonfarm jobs constitute about 12% of the hired farm work force and perform about 6% of the man-days of hired farm work. They work about 35 days at farm work and about 225 days in total. They also have substantially higher earnings at nonfarm jobs than farm jobs, but there is no noticeable tendency toward a declining participation in hired farm work.

*I have included workers whose chief activity was looking for work among the multiple jobholders rather than the temporary workers because these primarily unemployed workers were in the labor force most of the time while the temporary workers were not.

Table 2. Days of Farm Work of the Hired Farm Work Force by Chief Activity, 1962 Through 1967^a

Chief Activity	1962	1963	Days of Farm Work			
			1964	1965	1966	1967
Hired Farm Work Only	248	232	238	247	269	248
Multiple Jobholders						
Primarily Farm Wage Work	167	178	158	165	174	175
Primarily Work on Own Farm ^b	50	45	43	43	79	69
Primarily Nonfarm Work	38	25	34	31	41	41
Primarily Unemployed	66	50	38	40	--	--
Temporary Workers						
Homemakers	32	28	38	35	34	35
Students	32	27	35	35	35	33
Others	46	45	35	40	42	38
Average, All Workers	81	76	80	85	85	84

^a[3].^bSee footnote b, Table 1.Table 3. Total Days Worked at all Work for Pay by Chief Activity of Worker 1962 Through 1967^a

Chief Activity	1962	1963	Days Worked at all Work for Pay			
			1964	1965	1966	1967
Hired Farm Work Only	248	232	238	247	269	248
Multiple Jobholders						
Primarily Farm Wage Workers	215	228	209	219	233	229
Primarily Work on Own Farms ^b	65	59	57	46	92	83
Primarily Nonfarm Workers	236	217	223	225	236	221
Primarily Unemployed	85	75	73	65	--	--
Temporary Workers						
Homemakers	40	36	52	49	50	48
Students	48	41	54	53	54	51
Others	60	60	51	62	55	64

^a[3].^bSee footnote b, Table 1.

Table 4. Percent of Man-days of Hired Farm Work by Chief Activity of Worker, 1962 Through 1967^a

Chief Activity	1962	1963	Percent of Man-days ^b			
			1964	1965	1966	1967
Hired Farm Work Only	52.1	58.1	55.5	58.6	52.7	55.8
Multiple Activity Workers	27.2	21.6	21.2	19.1	23.7	21.0
Primarily Farm Wage Workers	9.7	9.0	11.1	11.0	10.3	10.6
Primarily Work on Own Farms ^c	6.1	5.4	3.5	2.3	5.3	4.4
Primarily Nonfarm Workers	5.3	3.5	5.2	4.5	7.0	6.0
Primarily Unemployed	6.1	3.7	1.4	1.3	1.1	--
Temporary Workers	20.5	19.8	24.3	22.6	23.6	23.2
Homemakers	6.9	5.8	7.7	6.2	4.6	6.0
Students	10.5	10.8	14.6	14.1	15.4	14.7
Others	3.1	3.2	2.0	2.3	3.6	2.5
Total	100.0	100.0	100.0	100.0	100.0	100.0

^aComputed from data in [3].

^bDetail may not add to total due to rounding.

^cSee footnote b, Table 1.

Temporary workers, that is, those not in the labor force most of the time have filled the gap created by the decline in primarily unemployed workers and farm operators and unpaid family workers who do farm wage work. The number of temporary workers has remained relatively stable and their proportion of all workers has increased steadily since 1962. Well over half of these workers are students and most of the rest are homemakers. The number and proportion of students in the hired farm work force has increased considerably in this six-year period.

These temporary workers contribute about one-fifth of the man-days of hired labor. They work about 35 days a year at farm work and about 50 days a year at all activities. A trend toward an increase in the average number of days of nonfarm work performed by temporary farm workers seems to prevail in the data of Table 5. This suggests that a declining proportion of temporary workers employed days are devoted to farm work.

"Package Demand" and the Impact of Mechanization

In total, about 17% of those persons more or less permanently attached to the labor force depend on some combination of farm and nonfarm employment to provide their annual income. These workers perform about 16% of the man-days of hired farm work. Some of these are, of course, workers who are making a more or less permanent change of status during the year from farm to nonfarm work or vice versa. But the relative stability in the number of such persons, and in their degree of commitment to farm and nonfarm work, suggests that in

Table 5. Percentage of Hired Farm Workers Also Doing Nonfarm Work and Number of Days of Nonfarm Work by Chief Activity, 1963 Through 1967^a

Chief Activity	1963		1964		1965		1966		1967	
	%	Days of Nonfarm	%	Days of Nonfarm	%	Days of Nonfarm	%	Days of Nonfarm	%	Days of Nonfarm
Multiple Job Holders										
Primarily Farm Wage Work	100	49	100	51	100	51	100	59	100	54
Primarily Work on Own Farm ^b	21	67	26	54	15	54	22	--	26	--
Primarily Nonfarm Work	96	199	98	194	100	193	99	197	93	193
Primarily Unemployed	50	50	66	53	63	40	59	--	--	--
Temporary Workers										
Homemakers	19	41	26	43	27	49	31	52	20	64
Students	29	47	33	60	31	57	32	58	31	61
Others	24	--	36	42	24	--	25	52	33	99
All Workers	32	97	38	98	37	102	39	109	34	105

^aSource [3].

^bSee footnote b, Table 1.

many cases this is a fairly permanent arrangement. The comparative daily earnings at farm and nonfarm work also suggests that the proportion of the worker's time between farm and nonfarm work is dictated by the duration of the jobs rather than the decision of the worker (Table 6).

Those workers who are engaged primarily in nonfarm work spend relatively few days at farm work. Most of these workers are probably attracted into the farm work force for a specific crop activity and are doing so to fill in a brief period of unemployment or layoff or are working an additional job to supplement household income. Their daily earnings at nonfarm work are the highest of any group; thus, their opportunity cost at farm work is high. Furthermore, their primary involvement in nonfarm work means that they are strongly oriented to nonfarm working conditions. It seems reasonable to assume that these workers are only marginal farm labor force members and that an opportunity to increase nonfarm work would lead to a reduction in farm work.

Workers who are primarily engaged in farm wage employment but also do nonfarm work spend the equivalent of about two months at nonfarm work. Their daily earnings at nonfarm work are lower than those who are primarily engaged in nonfarm work, and their daily farm earnings are higher.* Thus, their opportunity cost at farm work is lower than the primarily nonfarm workers. Workers working primarily at farm work are certainly marginal to the nonfarm work force. It is likely that their educational and skill levels would lead to little security in a nonfarm job. Thus, it can be hypothesized that the commitment of these workers to farm work is relatively strong. Nevertheless, these workers have had firsthand experience in nonfarm work and in many cases have such contact on a recurring basis. They are likely to judge farm employment opportunities to some extent from a nonfarm point of view.

An unknown but significant number of the persons whose chief activity is farm wage work, work at a sequence of farm jobs. This is particularly the case among migratory farm workers. In some cases this is a sequence of jobs at the same activity for different employers, such as with workers who follow the apple harvest. In other cases it is a sequence of different activities for the same or different employers, such as the asparagus, tomato, and potato harvest in New Jersey.

Less than one-third of temporary farm workers work at farm and nonfarm jobs (Table 5). Their period of farm employment suggests that many of them are attracted into the farm work force for a specific activity. Well over half of these workers are students seeking summer and part-time employment. As many of these persons have little long-term vocational interest in their temporary employment, the more immediate considerations of availability and comparative earnings probably exert strong influence on labor market decisions

*This could reflect higher basic pay rates for activities which workers doing primarily farm wage work engage in, higher productivity, or simply more hours worked per day.

Table 6. Average Daily Earnings at Farm and Nonfarm Work of the Hired Farm Work Force by Chief Activity, 1962 Through 1967

Chief Activity	1962		1963		Average Daily Earnings (dollars)				1966		1967	
	Farm	Nonfarm	Farm	Nonfarm	1964		1965		Farm	Nonfarm	Farm	Nonfarm
					Farm	Nonfarm	Farm	Nonfarm				
Hired Farm Work Only	7.65	--	6.90	--	7.65	--	8.45	--	8.90	--	10.60	--
Multiple Jobholders												
Primarily Farm Wage Work	6.95	8.75	7.25	8.75	8.45	10.30	7.55	10.25	9.30	10.15	10.35	12.40
Primarily Work on Own Farm	9.10	9.90	6.30	12.45	6.70	6.25	8.00	--	11.35	--	9.95	9.00
Primarily Nonfarm Work	7.40	12.05	7.30	12.55	7.95	12.20	8.05	13.30	8.35	14.95	9.05	16.35
Primarily Unemployed	5.60	8.70	5.75	8.50	6.95	8.55	8.30	12.05	--	--	--	--
Temporary Worker												
Homemakers	4.05	5.25	4.35	4.95	5.15	5.10	5.55	5.80	7.75	5.30	7.70	7.40
Students	3.75	3.75	4.00	5.30	5.10	5.25	4.80	4.45	6.20	6.50	6.85	5.85
Others	5.20	8.60	4.95	9.45	7.35	7.70	6.30	--	8.95	12.65	8.40	15.00
Average All Workers	6.80	10.15	6.35	10.75	7.15	10.10	7.55	10.55	8.55	12.85	9.70	13.25

of these workers. It is significant in this regard that there is little difference in the average daily earnings at farm and nonfarm work for temporary workers. Farm earnings in some cases exceed nonfarm earnings.

Mechanization of a high labor using crop would be expected to have differential effects on different classes of workers and on producers of such crops. In crop activities utilizing primarily temporary workers the effect of mechanization undoubtedly would be to reduce temporary work opportunities, thus augmenting the supply of workers available for the remaining temporary jobs. For workers who are primarily unemployed or at work on nonfarm jobs the effect would probably be much the same, that is, reduced temporary job opportunities and an augmented supply of workers for the remaining jobs.

For workers who are primarily single job, full-time workers the impact of mechanizing activities would likely be slight. In the long run mechanization has, of course, contributed to the reduced demand for year-round workers. However, as farm consolidation continues, also fostered in part by mechanization, we may anticipate a stabilizing and perhaps eventually increasing demand for permanent workers.

For workers who are primarily or exclusively hired farm workers working at a sequence of farm jobs, the ramifications of mechanizing important labor using activities are difficult to assess. Mechanization of a key activity can create gaps in the sequence or package of employment either leaving workers idle during this period or leading them to seek alternative employment. This period of adjustment can create severe hardships for workers. In an economy in which demand for farm and unskilled labor is declining, alternative employment is likely to be difficult to find and less remunerative. If the gap occurs for migratory workers away from home the problems are compounded. The mechanization of the snap bean harvest provides one recent example of such a disruption in the Northeast.

In addition to the hardships created for workers the disruption of the employment sequence and the eventual re-establishment of a new sequence can lead to a shortage of workers for other activities in the original sequence. In many areas there is a dominate seasonal labor using crop and many subordinate crops which draw on the seasonal labor force before or after the dominate activity. Mechanization of the dominate activity may lead to severe labor shortages in subsidiary activities, at least temporarily. When such a breakdown in the job sequence occurs the employer's alternative is to substitute regular or temporary workers. The need to hold labor for use in other crops may slow the mechanization process as employers seek alternative sources of labor. Instances of this were reported in the cherry and pickle harvest in Michigan [1].

Mechanization also affects the type of labor required. The data in Table 1 indicate that temporary workers, mostly housewives and youth, are the expanding sector of the farm labor force. Mechanization, which makes

seasonal jobs suitable for such workers, will greatly expand the potential supply of farm labor. In addition, mechanization in general makes farm work less strenuous and improves its desirability to an industrially oriented labor force. It also tends to establish a routine and pace of work which, if the machinery is reliable, enhances worker productivity and further reduces labor requirements.

Implications for Manpower Policy

As a society we do not have a very enviable record of anticipating manpower problems arising out of the technological, social, and economic changes that have taken place in rural society. We have generally waited to respond to the dramatic and visible crises which these changes have created. One need only mention the aftermath of the mechanization of the cotton harvest and the tremendous sweep of rural low income people to the cities to suggest the consequences of such a course of action. We must develop better means of anticipating manpower problems, large and small, and plan a course of action to cope with them before they become crises.

One of the principal immediate labor force problems created by mechanization of seasonal farm jobs is the disruption of employment pattern for workers and the labor supply pattern for other farm commodities. Developments in the mechanization of farm jobs must continually be assessed, not only as an aid to planning of future farm labor recruitment programs, but in order to plan for solutions to the underemployment and unemployment problems created among the workers displaced. Conferences such as this to review the overall state of the arts in farm mechanization and special studies of emerging problems will be needed on a continuing basis.

The development of alternative employment opportunities for displaced farm workers will not be easy. Retraining of these workers for steady permanent nonfarm jobs would, in many cases, be ideal. However, this is not a realistic alternative for many of the workers involved. The development of alternative agricultural jobs, even a sequence of seasonal jobs, appropriate to their level of skill and experience may prove more fruitful and should not be disregarded in programming.

A special problem which needs to be understood and planned for is that arising from the mechanization of a particular task in a package of farm or farm and nonfarm jobs. We must develop and keep up to date our knowledge of the multiple job holding patterns of farm workers. In particular, we need to know more about the nature of farm-nonfarm employment patterns. Mechanization of a key crop will require the development of alternative employment opportunities which may reduce the supply of workers for other activities and require the development of alternative sources of labor supply as well. This alternative source of supply will probably be temporary local workers to replace nonlocal workers.

Certainly prompt consideration should be given to the feasibility and impact of the extension of Unemployment Insurance protection to farm workers. The Unemployment Insurance system was designed to alleviate many of the problems we are discussing. Such a plan will have to take cognizance of the large number of interstate farm workers and the large number of temporary farm workers not ordinarily in the labor force. However, it is unreasonable to assume that alternative jobs can be quickly found for displaced workers already among the most marginally productive to society.

While the search for combinations of jobs to increase the employment of seasonal workers must be counted, it seems unlikely that this will provide anything more than a temporary expedient in solving the employment and earnings problems of farm workers. The history of our technological development both in industry and agriculture has been one of increasing job specialization. Workers permanently attached to the labor force also prefer the security of steady employment. Multiple job holders lack security and cannot accumulate job rights. Not only migratory farm workers but nonmigratory workers who combine farm jobs or farm and nonfarm jobs are subject to these problems. What appears to be the impending organization of hired farm workers may provide an institutional framework for eliminating these problems among multiple farm jobholders. However, it seems unlikely that farm-nonfarm employment packages will be desirable alternatives for workers in the long run.

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ADDENDUM

The Hired Farm Working Force Report for 1968 was published shortly after this paper was presented at the colloquium. The estimated size of the hired farm working force in 1968 showed a modest decline to 2,919 thousand persons while the index of total farm output showed a modest increase to 120 (Addendum Table 1). In general, the composition of the hired farm work force

Addendum

Table 1. Hired Farm Working Force Data by Chief Activity for 1968^a

Chief Activity	Workers		Days of Work		Daily Earnings (dollars)		Percent Doing Nonfarm Work	Days of Nonfarm Work
	Number	Percent	Farm	Total	Farm	Nonfarm		
Hired Farm Work Only	525	18.0	240	240	11.45	--	--	--
Multiple Jobholders	668	22.9	--	--	--	--	--	--
Primarily Farm Wage Workers	124	4.2	176	231	10.95	14.00	100	55
Primarily Work on Own Farm	134	4.6	58	78	12.20	15.15	30	--
Primarily Nonfarm Workers	373	12.8	39	224	11.70	16.50	91	204
Primarily Unemployed	37	1.3	b	b	b	b	b	b
Temporary Workers	1725	59.0	--	--	--	--	--	--
Homemakers	449	15.4	33	43	8.15	7.00	24	44
Students	1107	37.9	35	53	7.50	6.65	34	53
Others	170	5.8	35	50	9.30	14.60	32	46
Total or Average ^c	2919	100	79	116	10.55	14.20	37	100

^aSource [3].^bAverage not published where base is less than 50,000 persons.^cPercentages may not add to totals due to rounding.

by chief activity was consistent with trends established in prior years, with temporary workers increasing to 59% of the total.

There was a sizable decline in the number of days of nonfarm work by temporary farm workers in 1968, although the proportion of workers doing nonfarm work remained about the same as in previous years. Daily farm earnings of homemakers and students were well above their daily earnings from nonfarm work. Average daily earnings at nonfarm work of those persons who were primarily farm wage workers increased considerably while their farm earnings showed little change.

It should be noted that estimates published in *The Hired Farm Working Force Reports* are based on a small sample of households and estimating errors can be substantial, especially on estimates with a small base. Thus, year-to-year differences can result from errors in estimation as well as actual changes in the variables estimated.

AGRICULTURAL LABOR MOBILITY

Paul B. Miller

Labor mobility is a many faceted subject and one which has increased in importance as the age of automation has progressed. In general, mobility exists when an individual has the ability to change the life or work pattern which he occupies currently. There are several dimensions or directions to the potential movement of people within the economic system as well as a multitude of factors influencing the decision to move. Most common types of mobility are social, labor force status, occupational, industrial, and geographic. The purpose of this paper is to explore each dimension of mobility briefly, consider some of the implications of recent research affecting each type and then discuss the significance of mobility in a dynamic agricultural labor market. Although each labor market is unique, I will rely heavily upon the experience gathered in studying the Lower Rio Grande Valley of Texas and Mexican-American farm workers.

Economic Importance of Mobility

The ability of a given labor market to expand and contract is vital to the economic health of a region. Unless movement is sufficient to compensate for changes in labor demand, both quantity and quality, bottlenecks occur causing structural unemployment in one area or occupation while an actual labor shortage might exist nearby. It is possible for a surplus of labor to exist amidst an extreme shortage if the skill requirements of the new job openings do not match the educational attainment of the available displaced workers. The result is an underutilization of human resources creating inefficiency and a decrease in potential productivity.

Capital is considerably more mobile than labor. Recent experience has demonstrated how agricultural investment can be transferred from the United States to Mexico or any other desired location with little economic difficulty. Also capital resources can shift easily and swiftly into or out of a specific industry or process and drastically change the capital to labor ratio. Costs and availability of mechanical equipment relative to the supply and prevailing wage determine the rate of application of capital to agricultural production.

Types of MobilitySocial Mobility

As a general rule, social mobility would not be treated in the context with the more conventional types of labor mobility. However, in the case of Mexican-Americans, it is highly relevant to the future supply of agricultural

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manpower. Even among Mexican-Americans, farm occupations do not enjoy a very high status. Most parents want their children to go into some higher skilled nonagricultural career once he is old enough to leave home. The youth are better educated and receive much higher incomes than parents did at that same age. Skrabanek and Rapton found a significant trading up of occupations from farm to nonfarm intergenerationally [5]. Wright and Juvlesky found that 48% of Mexican-American male high school students wanted to become professionals and only 5% mentioned unskilled occupations [7]. Indications are then that rural youth are interested in leaving agriculture if the proper opportunity can be created for them.

Labor Force Status Mobility

The labor force attachment of agricultural workers is often rather tenuous. Some of the reasons for this stem from the nature of the demand for their services. Due to conditions of temperature, moisture, etc., it is not uncommon to work only part of the day or not at all. There are frequent losses of work time due to the necessity of travel between jobs. Within each family the number of people employed over the year may fluctuate from zero to ten or more, depending on the specific month. Consequently, this shifting of individuals in and out of the labor force creates a fluid situation. While the long-run participation rate for the civilian labor force is stable at about 60%, the rate for a rural family may vary widely [6].

The average size of the household in our sample was seven persons. Of this household group, 23% had a maximum of only one worker employed at any time during the year, 29% had two, 12% had three, 14% had four, 14% had five, while 7% had over five working at the same time. Almost every household had experienced at least some unemployment or dropped out of the labor force. In addition, 30% of the families had two or more people unemployed or out of the labor force.

The major determinants of the size of the family work force besides rate of childbirth are the level of family income and the age of the workers. Among farm families, most of the school age people drop out in September (or November for migrants) and go back in April, May, or June. If migrant family income is sufficiently high during the period spent out of Texas, the household members frequently will not work while they winter in South Texas. That is to say, they are readily willing to substitute leisure for additional real income. However, there is a tendency for the younger workers to be more economically motivated than their parents in this respect.

Occupational Mobility

With a declining demand for agricultural manpower in most areas, it is essential for individuals to be able to move to another occupation. Major obstacles to the farm worker group's mobility include a paucity of education,

inconvertibility of skills, and lack of work experience. Average educational levels of farm workers are the lowest of any occupational group. In our study specifically, 51 of the household heads had less than one year of formal education while 77% had not completed the fifth grade.

Although the problem of occupational mobility among agricultural laborers is worsened by a lack of potential skill convertibility, there is substantial lateral movement or shifting from the harvesting of one commodity to another. In our group it was found that on the average each worker spent time in the production of three different commodities in 1968. The products on which most of our group worked consisted of tomatoes, beets, cucumbers, onions, citrus, and carrots respectively.

Although skilled at farm tasks, this group of workers does not meet the skill requirements of most jobs in the labor market as a whole. The entry level is low in most cases and, therefore, they face a surplus situation. Rural manpower often has difficulty adapting to the regimented, rapid pace urban work environment. Ruesink and Batson followed the adjustment process of a large group of Mexican-Americans who under a mobility project sponsored by the U.S. Department of Labor, moved from rural South Texas to urban Fort Worth-Dallas [4]. Only about 10% of their group had agricultural employment as their last job but the experience of the group is worth noting. A majority of the group went to work at Ling-Temco-Vought (LTV) where they were subjected to rigorous screening, pretraining, and close scrutiny by counselors. The results are phenomenal, indicating that if subjected to an environment of the nature generated at LTV, low skilled, high ability people can adapt to new job situations. The retention rate was 93% after two months and 68% after one year. In comparison, another project can be cited where a group of workers from South Texas went to a new job in the same labor market without prior training and without prior knowledge of what they were supposed to be doing on the job. It is not surprising that over 50% of the new employees did not stay with the same employer over two months.

Industrial Mobility

Moving from one occupation to another quite often is combined with an interindustry transfer. Frequently a complex move is necessary as opposed to a simple shift along one dimension. Perkins and Hathaway found that movement to nonfarm jobs would most likely occur among young non-Negroes having fairly high earnings in agriculture, previous nonfarm work experience, coming from a high income county, and being located within 50 miles of a Standard Metropolitan Statistical Area [3]. Unfortunately, few of these factors are present in South Texas. However, experience with the LTV mobility project seems to indicate that some of the obstacles to mobility can be overcome. Choldin and Trout found that most Mexican-Americans who have dropped out of the migratory stream in a Michigan sample have been able to change

both occupation and industry without insurmountable difficulties [1]. Some 57% of their sample had shifted from farm work to operative and kindred occupations, while 68% had moved to manufacturing jobs rather than agriculture.

Within our group about one-third of the household heads had held a non-farm job in the last five years. Among this subgroup holding nonfarm jobs, approximately one-fourth did some type of construction work, 15% automotive related work and about the same number worked at agriculturally oriented jobs. Only two household heads did anything which might be classified as semi-skilled.

Geographic Mobility

Texas has provided an important source of seasonal farm labor for many years. While most of the hired labor force consists of local workers, migrant workers form the element on the supply side which serves to counterbalance pressures on the market stemming from the demand side during peak periods. This annual trek following the sun provides a ready source of trained farm labor for more urbanized states in which migration to the cities has pulled most of the people out of agriculture. Growers like this manpower source because they do not have to worry about creating jobs for the people in off seasons. Traditionally migrants did not stay; and, therefore, the towns did not have to worry about cultural friction and supplying housing or public facilities.

Following the migratory path rather than staying in South Texas gives an individual or group the opportunity to work longer hours and make more money. In general, the Lower Rio Grande Valley has a surplus of unskilled human resources willing to work. The workers enjoy spending the colder months in the Valley where the temperature is more to their liking, and they are able to be near relatives and friends. While there, they are willing to work for much lower wage rates on winter vegetables and citrus.

Tables 3 and 4 indicate the most important receiving states of migratory labor from the state of Texas. Migrants learn of jobs through the Texas Employment Commission, private labor recruiters, letters from employers, friends, and going out on their own from place to place. Michigan, Ohio, and Minnesota benefit most from the inflow of farm workers from Texas. Our research in Hidalgo County indicates that most of the families who left Texas went to the Middle West with Michigan being the most popular. Although a large number did not leave the state, the average for the group was two states during the course of last year.

Table 5 shows the relative importance of the Lower Rio Grande Valley to the exportation of labor. Hidalgo County (McAllen Labor Market) is the largest single contributor of migrant labor. Its share of the total supplied by the Valley has increased from 52% in 1965 to 61% of the number exported by private labor recruiters from Texas in 1968. For the country as a whole agricultural employment continues to decline as well as the share of migrants, which has fallen to 11% of total hired farm labor.

Table 1. Labor Force Estimate by Labor Market Area: January 1964 Through May 1969
(Thousands)

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Brownsville												
1964 Farm Employment	8.9	8.8	8.8	9.2	10.5	10.9	10.6	10.4	7.5	8.5	9.0	9.2
Nonfarm Employment	34.3	34.8	34.8	34.9	35.2	35.2	36.0	35.6	34.6	34.5	34.8	35.1
Total Rate of Unemployment	8.9	8.4	9.3	8.7	8.6	9.5	8.0	7.9	7.9	7.6	8.0	8.4
1965 Farm Employment	9.0	8.8	9.0	9.2	10.2	10.5	10.0	10.0	7.8	8.7	9.4	9.7
Nonfarm Employment	35.2	35.1	35.8	35.8	35.7	35.1	35.7	36.2	35.4	35.2	35.6	36.7
Total Rate of Unemployment	7.6	8.4	7.6	8.5	8.3	9.0	8.0	7.0	6.9	6.2	6.7	6.1
1966 Farm Employment	9.0	9.0	9.3	10.0	10.0	11.5	8.5	8.0	7.8	7.8	8.7	8.1
Nonfarm Employment	36.6	36.8	37.4	37.3	36.8	37.0	37.2	38.4	37.0	36.9	37.0	37.6
Total Rate of Unemployment	6.2	6.3	6.2	6.8	7.3	8.1	6.2	5.8	6.5	6.8	6.4	5.3
1967 Farm Employment	7.8	7.7	8.8	9.0	10.0	9.6	7.0	8.8	5.8	1.3	2.3	2.9
Nonfarm Employment	37.0	37.8	38.0	37.9	37.7	37.6	38.1	38.8	37.6	37.7	37.8	38.4
Total Rate of Unemployment	5.9	5.8	6.1	6.3	6.2	7.3	5.1	6.5	8.4	8.3	5.6	4.5
1968 Farm Employment	3.9	4.8	6.1	9.3	7.0	7.8	4.7	6.4	6.2	6.2	6.9	7.0
Nonfarm Employment	37.6	37.7	38.1	38.9	38.6	38.2	38.2	38.6	38.3	37.1	37.9	39.0
Total Rate of Unemployment	5.4	4.9	4.9	5.6	6.2	7.1	5.6	6.0	6.0	6.0	6.4	5.7
1969 Farm Employment	6.7	7.1	7.7	7.9	7.8	--	--	--	--	--	--	--
Nonfarm Employment	38.9	38.6	39.4	39.7	38.8	--	--	--	--	--	--	--
Total Rate of Unemployment	5.6	6.1	5.5	6.2	6.9	--	--	--	--	--	--	--
Change in percentage between 1964 and 1968-69 in Farm Employment												
1964 to 1968	-56.0	-45.0	-31.0	1.1	-33.3	-28.4	-57.5	-38.5	-17.3	-27.1	-23.3	-23.9
1964 to 1969	-24.7	-19.3	-12.5	-18.5	-25.7	--	--	--	--	--	--	--
Source: Texas Employment Commission												

Table 2. Labor Force Estimate by Labor Market Area: January 1964 Through May 1969
(Thousands)

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
McAllen												
1964 Farm Employment	11.0	11.8	11.9	12.4	13.8	14.7	13.9	13.7	10.9	11.0	10.9	11.3
Nonfarm Employment	36.6	36.4	37.6	37.6	37.9	37.2	35.3	35.0	34.9	35.5	37.7	38.0
Total Rate of Unemployment	8.3	8.2	7.3	7.3	6.9	8.1	7.0	6.9	6.4	6.9	7.3	6.8
1965 Farm Employment	11.3	11.4	11.8	12.3	13.2	14.0	13.5	13.5	11.2	11.2	11.3	12.0
Nonfarm Employment	38.2	38.3	38.6	38.6	37.9	37.2	37.0	36.3	36.3	37.1	38.2	40.3
Total Rate of Unemployment	6.7	6.8	6.5	5.6	6.5	7.2	6.2	6.1	5.8	6.1	6.8	5.8
1966 Farm Employment	12.5	12.7	12.1	14.5	12.0	13.2	10.0	10.9	10.9	12.6	16.6	15.0
Nonfarm Employment	40.0	40.2	40.1	40.3	39.1	40.0	39.7	40.3	40.4	40.1	41.7	43.0
Total Rate of Unemployment	5.9	5.7	5.2	4.8	4.8	5.7	6.0	5.3	5.5	5.3	6.1	5.8
1967 Farm Employment	15.8	16.2	16.0	18.2	17.5	14.9	12.8	11.5	11.2	5.7	7.0	8.2
Nonfarm Employment	42.7	42.5	42.7	43.2	42.5	42.0	41.8	41.2	41.5	42.4	44.2	45.2
Total Rate of Unemployment	5.8	5.6	5.3	5.3	5.5	6.7	6.4	5.8	6.5	5.5	6.6	6.0
1968 Farm Employment	6.5	9.5	11.9	16.3	15.3	14.2	10.3	11.0	11.9	12.1	15.5	15.9
Nonfarm Employment	43.9	44.2	44.5	45.7	44.3	43.1	40.5	40.1	42.1	44.0	46.0	48.2
Total Rate of Unemployment	5.9	5.9	5.4	5.5	5.1	6.5	6.5	5.4	5.1	5.6	7.0	5.4
1969 Farm Employment	16.0	15.3	14.7	17.5	16.0	--	--	--	--	--	--	--
Nonfarm Employment	49.0	48.7	48.8	49.0	47.0	--	--	--	--	--	--	--
Total Rate of Unemployment	5.2	6.3	4.8	4.8	5.4	--	--	--	--	--	--	--
Change in percentage between 1964 and 1968-69 in Farm Employment												
1964 to 1968	-40.9	-22.9	0	31.5	-10.9	-3.4	-25.9	-19.7	9.2	10.0	42.2	40.7
1964 to 1969	45.5	29.7	23.5	41.1	15.9	--	--	--	--	--	--	--

Source: Texas Employment Commission
Total Farm Employment may remain the same but people are different.

Table 3. Distribution of Agricultural Labor Sent Out of Texas Through Licensed Agents by State of Destination: 1965-68

State	1965		1966		1967		1968	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
California	6,020	15.0	5,907	16.2	679	2.0	1,016	2.8
Colorado	6,523	16.2	5,438	14.9	649	1.9	5,880	16.4
Idaho	1,871	4.6	1,660	4.6	1,988	5.8	1,782	5.0
Illinois	428	1.1	108	.3	436	1.3	318	.9
Iowa	33	.1	497	1.4	465	1.4	825	2.3
Kansas	1,159	2.9	931	2.6	1,287	3.8	2,198	6.1
Michigan	5,631	14.0	4,000	11.0	3,732	10.9	4,242	11.8
Minnesota	5,518	13.7	4,959	13.6	6,131	17.9	5,983	16.7
Montana	1,900	4.7	784	2.2	1,335	3.9	1,365	3.8
Nebraska	3,532	8.8	4,478	12.3	3,778	11.1	3,793	10.6
North Dakota	2,654	6.6	2,376	6.5	1,899	5.6	2,702	7.5
Ohio	2,750	6.8	1,906	5.2	1,591	4.7	2,012	5.6
Oregon	334	.8	467	1.3	974	2.9	215	.6
Utah	1,201	3.0	1,007	2.8	968	2.8	456	1.3
Washington			236	.6	303	.9	261	.7
Wisconsin	7	.01	71	.2	364	1.1	392	1.1
Wyoming	630	1.6	930	2.6	1,107	3.2	1,308	3.6
Total No. of Workers	40,251		36,463		34,158		35,846	

Source: Texas Bureau of Labor Statistics.

Table 4. Distribution of Agricultural Labor Sent Out of Texas Through Texas Employment Commission by State of Destination: 1965-68

State	1965		1966		1967		1968	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Colorado	2,606	3.9	2,346	3.0	3,368	3.9	987	1.3
Idaho	4,592	7.5	4,618	6.0	4,515	5.3	5,461	7.4
Illinois	5,143	7.8	6,440	8.3	6,017	7.0	4,984	6.8
Indiana	5,678	9.6	7,657	9.9	8,561	10.0	6,011	8.2
Iowa	371	.6	1,140	1.5	1,196	1.4	307	.4
Michigan	15,303	23.1	23,545	30.4	26,199	30.6	27,896	37.9
Minnesota	819	1.2	728	.9	1,170	1.3	1,294	1.8
Montana	3,021	4.6	2,537	3.3	2,963	3.5	2,446	3.3
Ohio	9,734	14.7	9,957	12.9	10,700	12.5	8,963	12.2
Oregon	1,686	2.6	2,043	2.6	2,520	2.9	1,660	2.3
Washington	1,916	2.9	2,282	2.9	2,210	2.6	1,285	1.8
Wisconsin	7,294	11.0	7,361	9.5	8,837	10.3	6,577	9.0
Wyoming	2,520	3.8	1,959	2.5	2,144	2.5	2,177	3.3
Total	66,185		77,498		85,574		73,460	

Source: Texas Employment Commission.

Table 5. Distribution of Agricultural Labor Sent Out of State by Licensed Labor Agents
From the Lower Rio Grand Valley by County: 1965-68

Year	Total Number of Workers		Percent of Workers from Valley	Number and Percent of Workers from Counties in Valley							
	From Texas	From Valley		Cameron		Hidalgo		Starr		Willacy	
				No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
1965	40,251	14,669	36	5,762	39	7,622	52	309	2	742	5
1966	36,463	14,948	41	5,060	34	8,881	59	170	1	826	6
1967	34,158	14,406	42	4,984	35	8,321	58	258	2	843	6
1968	35,846	14,958	42	4,906	33	9,166	61	170	1	743	5
Source: Texas Bureau of Labor Statistics.											

To summarize the subject of mobility, there are several paths an individual might take to adjust to rapid changes in the agricultural labor market. An individual who is unable to adapt to the dynamics of the market will sacrifice both personal income, prestige, and job security. Consequently, the economy will suffer a loss of potential productivity resulting from underutilization of the human resources which such an individual represents. Frustrated by failure to synchronize his personal attributes to the needs of the changing work environment, the farm worker could be alienated toward society. This in turn could result in his withdrawal both from society and the labor force.

Mobility and Rural Manpower Problems

There is general agreement on the desirability of achieving and maintaining a highly mobile agricultural labor force because such a force is able to fluctuate as manpower requirements change. Most people recognize the existence of barriers that impede the transition of farm workers from one job to another. Deficiencies in education, skill, and work experience coupled with strong sociological ties to specific regions create serious adaptational problems. The burden of hardships caused by mobility now rests primarily upon the individual. In most cases there are no provisions for income maintenance (unemployment compensation, supplementary unemployment benefits, etc.) comparable to nonfarm employment. Furthermore, there is a definite lack of general agreement on how the burden might be shifted from the farm worker and, indeed, on whether or not it should be shifted.

On one hand there exists a substantial number of people who believe that the public should not tamper with the market mechanism. This opinion is based on the desire to maintain a large surplus of cheap captive labor. In addition, this view obtains additional support through associations of citizens which are located in areas that receive manpower but do not want certain ethnic groups settling in their areas permanently. These two sources of opposition to public participation represent a highly organized, politically influential force which resists virtually any piece of social legislation designed to assist mobility. However, on the other hand, most people believe public institutions have both an obligation and a major role in increasing labor mobility.

There are numerous alternative public programs available under present laws which are designed to help ease some of the most severe hardships caused by labor market shifts. For example, the Annual Worker Plan has been effective in extending the work year and providing a rough estimate of migrant labor demand. At present the Farm Labor Service has at its disposal a wide range of programs oriented toward assisting people in transition by upgrading their skills and providing information concerning alternative employment opportunities. Through provisions of the Manpower Development and Training Act (MDTA) of 1962,

as amended, and the Economic Opportunity Act of 1964, a number of innovative programs have been implemented. There remains the urgent need to improve the image of the Farm Labor Service so that more people will rely on its facilities. However, at current levels of appropriations the service cannot meet the needs of rural people. More funds are needed for Headstart and Adult Migrant Education courses of OED, MDTA sponsored research and training classes, as well as E + D and outreach programs of the Farm Labor Service and U.S. Employment Service.

Aside from the lack of funds, the direction of agricultural manpower programs might be altered to consider a middle ground for the individual. While mechanization is lowering the demand for unskilled workers, it also is creating openings for higher skilled persons to operate equipment and provide agriculture related services such as pesticide and herbicide distribution and application. It is possible to train displaced farm workers for jobs which are similar to what they have been doing. There are several types of nursery and lawn service openings that would require little training. Of more universal appeal are auto mechanics and welders who can either serve the agricultural or non-agricultural labor market. A highly successful MDTA class was held in farm management tailored to small farm operators in East Texas. Because of the lower benefit-cost ratio for longer vocational classes it is more practical to implement manpower programs for older workers that are more of an intermediate step rather than a drastic change from the individuals previous work patterns.

South Texas will continue to serve as the reservoir for much of the migratory farm labor in the United States. Even though the birth rate is approximately 50% higher than the national average, the total population of the Lower Rio Grande Valley has increased very little during the last decade. Job opportunities are very limited in the Valley so many job seekers leave permanently each year. This is not an inexhaustible supply of agricultural workers, but they also present serious problems when making the transition out of the area and industry. There appears to be little potential for the location of industry in the region. The nonagricultural industries which might locate there are building facilities on the Mexican side of the border. Moving the surplus workers out of agriculture presents a national challenge. States have done little to help relieve the burden and uncertainty of the transition. Therefore, the leadership for financial support of ameliorative manpower programs falls on the federal government.

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MANPOWER POLICIES AND PROGRAMS

John W. Mamer

Introduction

If one makes any global comparisons of fruit and vegetable production and of prices paid by consumers, he cannot fail to be impressed with the achievement of the fruit and vegetable industry in the United States. Production has been more than ample to meet domestic needs. Prices have been sufficiently low for a substantial volume to move into international trade.

Yet the economic, social, and political framework of production is changing. Some of that change has its origin within the industry--in changing technology, methods of financing, marketing, etc. Some of the change to which adjustment will be made has its origin outside of agriculture in the economic, political, and social framework of the nation.

Probably the most important element of change lies in government policies and programs. A decade or so ago the main thrust of government policies and programs relevant to farm labor was in the direction of providing a labor supply for the fruit and vegetable industry. In the past five years emphasis has shifted toward concern for the welfare of the seasonal farm worker.

This shift is perhaps not emphatic. Yet it appears clear that currently, and more so in the future, progress is not to be measured exclusively in terms of volume of output and consumer prices. In part, this colloquium is a response to the questions of adjustments being generated by public policies as well as to changes in the labor supply-demand situation in the fruit and vegetable industry.

This paper will concentrate largely on problems evolving with respect to hired seasonal labor employed in fruit and vegetable production. Although family members and year-round workers are also frequently employed in the production of fruit and vegetables, the major problems arise with respect to hired seasonal workers. From the growers' point of view there is the problem of obtaining the quantity and quality of labor desired, and from the point of view of society there are the social and economic problems associated with seasonal labor.

To focus sharply on the critical issues, it is convenient at the outset to set down a series of brief statements that describe the current labor demand-supply situation in fruit and vegetable production.

Current Situation

The major elements of the present situation fall into two groups: (1) those that relate to seasonal farm labor requirements; and (2) those that relate to the supply of seasonal farm labor. The term "labor requirements" does not correspond to the economist's concept of demand but it is a useful and generally understood term.

Labor Requirements

Despite the decline in seasonal labor requirements in fruit and vegetable production, there remains currently and in the foreseeable future the need to mobilize relatively large numbers of workers to perform the seasonal tasks if current levels of production are to be maintained or expanded.

Assuming that employment approximates labor requirements, we can say that during the peak month, August, approximately a million seasonal farm workers are required in U.S. agriculture, given current volumes of output (Table 1). About 40% of these are employed in fruit and vegetable harvest. About a quarter of a million seasonal workers are migrants (Table 2). About four times as many seasonal workers are employed during the peak month as during the month of lowest employment, January.

These are relatively large seasonal labor requirements. The number of workers is large relative to the number of individuals employed on a year-round basis, family or hired. The number is large relative to the number of workers that usually can be recruited locally--hence, the need for migratory workers. State, county, and local data indicate to an even greater extent than national data the relative size of the annual mobilization of manpower among jobs and regions. In some counties or production areas the number of persons employed for a few weeks at seasonal farm work is from two to six times the annual average employment of all types of farm workers.

Even if one assumed that the decline in seasonal labor requirements is in the neighborhood of 6% annually, that would leave by 1979 a relatively large number of individuals to recruit and employ at seasonal farm work. Further, even if one assumes that the substantial effort directed toward the mechanization of production and harvest of fruits and vegetables will be more elaborate and more successful in the near future, it would probably be safe to say that seasonal labor will be an important component of the labor input in fruit and vegetable production for the next two decades.

The rate at which new technology is generated and proliferated through the industry is a variable subject to industry influence. Industry need not take the technology as given. The beet sugar industry and canning tomato industry in California are two obvious illustrations of industries that influenced substantially the rate of development of new technology. The new technology was the result of an organized comprehensive program in each case.

A high probability of success of a comprehensive effort to develop and proliferate new technology is contingent upon bringing to bear the widest possible range of scientific disciplines and securing the cooperation of all of the sectors of industry, from the grower to the supermarket.

Although the work of the ingenious inventor and the inventive farmer is still important, the problem of developing new technology is now largely beyond the resources of these two sources of new technology. The probability of

Table 1. Estimated Employment of Seasonal Hired Agricultural Workers by Activity of Worker,
United States, January-December 1968
(Thousands of workers)

Crop Activity	Employment											
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec. ^a
All activities	256.6	271.8	288.4	374.1	611.2	930.5	976.8	1,007.9	814.4	696.6	391.9	295.9
General	42.8	52.9	64.9	127.1	158.3	74.7	72.0	52.4	83.5	64.7	47.7	38.1
Cultivating	67.3	65.8	69.1	71.5	174.3	271.2	255.3	125.2	53.3	50.5	41.4	45.5
Cotton	3.4	6.4	10.3	10.3	45.9	87.1	66.8	29.3	7.8	.9	.2	.7
Fruits	49.9	43.9	29.2	33.8	57.9	39.0	26.1	19.1	15.2	12.9	19.9	34.8
Other crops	14.0	15.5	29.6	27.4	70.5	145.1	162.4	76.8	30.3	36.7	21.3	10.0
Harvesting	111.7	110.2	105.2	116.4	206.6	498.1	584.1	731.0	586.7	494.0	244.5	171.4
Cotton	4.7	.5	56.6	68.7	97.2	154.2	.5	18.8	35.2	74.7	64.8	42.9
Vegetables	49.2	53.2	56.6	68.7	97.2	154.2	145.1	276.5	221.7	156.9	76.3	53.6
Beans	3.1	3.3	3.7	4.3	4.0	25.9	12.4	75.9	16.9	9.5	4.1	4.1
Tomatoes	11.3	11.2	11.1	8.6	9.1	17.2	19.0	66.3	83.6	24.1	6.6	12.7
Potatoes	.8	1.9	1.3	1.1	3.5	10.8	10.5	12.6	31.4	52.5	10.5	.4
Other vegetables	34.0	36.8	40.5	54.7	80.6	100.3	103.2	121.7	89.8	70.8	55.1	36.4
Fruits	33.6	33.0	25.9	29.8	80.6	220.3	183.3	137.0	131.8	118.5	31.2	23.5
Citrus	31.1	31.2	23.4	19.2	23.0	16.7	10.6	4.8	4.2	5.3	18.1	21.4
Strawberries	1.6	1.0	1.6	9.1	47.8	117.6	13.4	2.5	1.6	.5	1.3	.3
Other fruits	.9	.8	.9	1.5	9.8	85.0	159.3	129.7	126.0	112.7	11.8	1.8
Tobacco	1.9	3.2	1.0	.4	5.1	21.1	130.9	195.3	100.8	47.2	12.6	3.9
Hay and grain	.3	.6	.3	2.8	11.6	83.1	77.8	77.5	68.7	52.3	23.4	7.3
Other crops	22.0	19.7	21.4	14.7	12.1	18.9	26.7	25.9	28.5	44.4	36.2	40.2
Activity unspecified	34.3	42.9	49.2	59.1	72.0	86.5	85.4	99.3	90.9	87.4	58.3	40.5

^aPreliminary Data.

Note: Due to rounding, figures may not add to totals.

Source: U.S. Congress. Senate. Committee on Labor and Public Welfare. *The Migratory Farm Labor Problem in the United States*. S. Rpt. No. 91-83, 91st Congress, 1st Session, 1969, p. 10.

Table 2. Estimated Employment of Migratory Agricultural Workers, By State and Month, 48 States, January-December 1968

(Thousands of Workers)

State	Migrant-Worker Employment											
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec. ^a
U.S. Total	35.3	38.5	40.7	59.8	115.2	203.9	208.3	235.6	202.3	134.9	48.1	44.9
Alabama	0	0	0	0	0.4	1.7	1.2	0.8	0.2	0.1	0.3	0.1
Arkansas	0	0	0	0	1.5	0	1.1	0	.3	0	0	0
Arizona	3.1	3.0	3.5	4.2	2.5	2.7	1.5	.9	1.2	2.4	3.6	4.2
California	11.2	12.2	14.0	20.2	37.9	38.3	35.5	51.5	62.5	38.7	14.6	12.7
Colorado	0	0	0	.6	2.2	7.8	6.9	5.8	4.7	3.1	.3	0
Connecticut	.2	.2	.1	1.1	1.7	1.7	5.7	5.1	2.0	1.4	.6	.2
Delaware	0	0	0	0	1.8	1.9	1.6	2.0	1.1	.5	0	0
Florida	20.2	21.5	19.2	19.0	18.7	7.3	1.8	.5	.9	5.0	12.0	18.6
Georgia	0	0	0	0	.5	0	1.1	0	0	0	0	0
Idaho	0	0	.2	1.0	3.7	6.4	5.5	3.9	3.6	3.0	1.0	0
Illinois	0	0	0	0	2.0	3.9	2.1	3.4	4.0	.7	0	0
Indiana	0	0	0	0	1.7	2.4	2.9	5.0	9.0	.6	0	0
Iowa	0	0	0	0	0	.4	.4	.6	.5	.3	.1	0
Kansas	0	0	0	.6	2.0	3.3	2.7	1.3	1.7	1.7	.7	0
Kentucky	0	0	0	0	.6	.2	.2	.2	0	.1	0	0
Louisiana	0	0	0	.8	.7	0	0	0	.4	.4	.4	.2
Maine	0	0	0	0	0	0	0	0	.4	.1	0	0
Mainland	0	0	0	.4	.7	.8	2.3	2.6	1.5	.8	0	0
Massachusetts	0	0	0	0	.8	1.0	2.2	2.9	1.8	.8	.2	b
Michigan	0	0	0	.7	3.7	23.2	27.3	40.0	13.6	10.3	.6	0
Minnesota	0	0	0	0	.3	6.3	6.1	.2	.2	.4	b	0
Mississippi	0	0	0	0	0	0	0	0	0	0	0	0
Missouri	0	0	0	0	0	0	.1	0	.2	.1	0	0
Montana	.1	.3	.7	1.4	1.5	5.4	5.9	6.4	4.0	2.2	1.1	.4
Nebraska	0	0	0	0	0	3.5	3.8	.4	.1	.1	0	0
Nevada	0	0	0	0	0	0	0	0	0	0	0	0
New Hampshire	0	0	0	0	0	0	.1	.1	.2	.2	0	0
New Jersey	0	0	0	1.3	6.5	9.8	10.6	12.1	9.6	5.5	.2	.1
New Mexico	0	0	0	0	.5	1.1	.8	.7	.9	.5	.4	.1
New York	0	0	0	0	2.1	4.0	7.0	9.3	14.8	13.1	0	0
North Carolina	0	.2	.1	.1	.3	2.3	3.7	8.3	4.7	3.4	1.8	0
North Dakota	0	0	0	1.4	2.2	4.1	4.6	5.6	5.0	5.1	0	0
Ohio	0	0	0	0	2.6	5.1	7.5	13.6	18.5	2.5	0	0
Oklahoma	.1	.1	.1	.3	1.0	13.0	2.3	1.7	2.4	1.4	1.2	.7
Oregon	.1	.4	.6	1.3	3.3	12.1	7.9	13.3	5.9	3.7	.1	.1
Pennsylvania	0	0	0	0	.5	.8	1.7	3.6	5.9	4.9	1.4	0
Rhode Island	0	0	0	0	0	0	0	.1	.1	0	0	0
South Carolina	0	0	0	0	0	4.1	1.9	2.0	.4	0	.1	0
Tennessee	0	0	0	0	.4	.1	b	b	b	.1	0	0
Texas	.1	b	.2	1.3	2.2	10.0	19.8	14.7	6.4	6.2	6.1	7.5
Utah	0	0	0	0	.3	1.5	2.7	.8	1.5	1.2	0	0
Vermont	0	0	0	0	0	0	0	b	.1	.1	0	0
Virginia	0	0	0	0	.8	1.1	4.4	3.3	2.8	3.2	.5	0
Washington	.2	.8	1.9	4.0	6.6	12.5	7.8	5.8	7.9	9.8	.7	0
West Virginia	0	0	0	0	0	0	.1	.3	.5	.7	.3	0
Wisconsin	0	0	0	0	.6	.8	2.4	6.9	1.1	.6	0	0
Wyoming	0	0	0	0	.5	2.9	2.3	.1	0	0	0	0

^a Preliminary data.^b Less than 50 workers.Source: U.S. Congress. Senate. Committee on Labor and Public Welfare. *The Migratory Farm Labor Problem in the United States*. S. Rpt. No. 91-L3, 91st Congress, 1st Session, 1969, p. 9.

success is greater and more predictable if the many scientific disciplines are brought to bear on the problem in an organized manner and if industry cooperation and support is thoroughgoing.

A program of research in the development of new technology that calls for the mobilization of the wide range of scientific disciplines included in the land grant universities places such an effort beyond the scope of any but the very largest private research institutions. On the other hand, much of the technology that is evolved for fruit and vegetable production and harvest has such a limited market that profit incentives are not likely to provide an adequate stimulus to the farm equipment companies to bring about the development and marketing of appropriate technology.

A comprehensive program of research and industry-wide cooperation assumes everything from the seed to the form of the final product can be modified. Such an approach is the critical element in enabling industry to convert technology into a variable subject to industry control.

Labor Supply

The situation under which seasonal labor is recruited for employment in the fruit and vegetable industry is changing. The following statements are a broad description of what appear to me to be the major elements of change with respect to the supply of seasonal labor:

Increasingly, the hired labor supply in agriculture is made up of individuals who do not seek full-year employment. This group, primarily housewives and students, are an increasing proportion of the total number of individuals who do hired farm work, increasing from about 20% in 1947-49 to about 58% in 1967 [14].

It is not possible to specify the extent to which those individuals who do not seek full-year employment are available and participate in the seasonal labor supplies for the fruit and vegetable industry. Nevertheless, this trend is an important factor in the labor supply situation. It indicates a possible source of manpower for seasonal tasks. Employment of manpower from this source would result in substantially smaller social and economic problems than is the case when persons seeking and needing full-year employment are so employed.

Current social, political, and cultural forces are exerting pressure to eliminate the migratory farm work occupation. The pressure is not necessarily against seasonal farm tasks. Rather it is against the institution of migratory farm work as a way of life. To over simplify, the culture is telling the seasonal farm worker that he cannot follow the life style of moving about the country with his family performing such seasonal farm work as he can obtain.

The 1969 Report of the Senate Committee on Labor and Public Welfare makes quite explicit the conviction that migrancy should be terminated. The report states in part:

A comprehensive evaluation of the causes and possible remedies of unemployment and underemployment of migrant farm workers should be undertaken with a view toward ending the migrant way of life. [13].

Relatively high and persistent unemployment rates prevail in many of the rural communities that serve as the trade centers of the areas of fruit and vegetable production. In the San Joaquin and Sacramento and some other valleys of California, unemployment rates are relatively high for most of the year. The unemployment rates for the civilian labor force are shown in Table 3 for a number of counties and labor market areas in California. My impression from personal observation is that in the larger rural geographical divisions there are many pockets where the unemployment problem is more serious than indicated by the rate for the region as a whole. In a recent paper on farm labor, Dale Hathaway and B. E. Perkins conclude that the need for expanded employment opportunities in the smaller urban centers is essential if the incomes of farm workers are to be improved [7].

The current political, cultural, and social climate is generally favorable to the public policies aimed at eliminating poverty and handicaps associated with racial origins.

There is broad public support for special programs such as migrant housing and migrant health programs. Such special programs are more efficient than general programs in speeding aid to disadvantaged groups, but public support for special programs cannot be interpreted as favoring the operation of these programs in a way that shelters any industry or sector of any industry from the general economic forces generated by the rising standards of living and the rising standards of employment in the economy at large. Varden Fuller and Calvin Beale describe the evolving situation as follows:

Contemporary society is coming to have a more explicit concern for its people, whether viewed as productive human capital or as disadvantaged and poor. The components of a deliberate national manpower policy are emerging, reflecting both the resource and the human interest. Right now, that concern is being diverted and attenuated by Vietnam and other foreign involvements, but we assume that domestic needs and goals will eventually reclaim their proportion of political attention and support. Assuming so, two prospective impacts follow: (1) departure from agriculture of the remaining surplus farmers will be made easier; (2) the supply price of labor to farming will rise. Or, to put the latter more pointedly, the gap between the terms of farm and nonfarm employment will disappear. [5].

Without passing judgment on the merits of the strategy of the efforts to organize the grape workers and on the responses of the grape growers, the widespread sympathy for efforts to organize the grape workers can be interpreted, I believe, as broad public support for efforts to raise the standards of employment among farm workers, particularly seasonal farm workers.

The individuals who make up the hired farm labor force in the United States tend increasingly to reside off the farm. In 1948-49, 65% of all farm

wage workers resided on farms. In 1966-67, 73% of hired farm workers reported their residence as nonfarm. Increasingly the hired labor force is recruited from among individuals who are increasingly aware of and subject to influences of the nonfarm economy.

The militancy of disadvantaged minority groups in our society is not likely to subside. The fact that many seasonal farm workers are members of racial minority groups underscores the importance of this factor.

Table 3. Civilian Labor Force Unemployment			
County or Labor Market Area	1967	Jan.-June	
	Percent	1967	1968
Fresno	7.1	8.6	7.7
Bakersfield	5.5	5.9	5.9
Stockton	6.8	8.9	8.1
Salinas-Monterey	6.2	7.6	--
Lake	10.9	12.5	9.5
Merced	8.5	10.8	9.9
San Benito	12.2	17.1	--
Stanislaus	10.6	13.5	12.6
Yuba-Sutter	9.2	12.0	10.3
Source: State of California. <i>California Statistical Abstract</i> , 1968, p.32.			

The gap between nonfarm and farm standards of employment remains substantial. A number of fruit and vegetable producers, individually, and through associations, have so improved the standards of employment that one can say that the employment standards of their workers are substantially comparable to those prevailing in nonfarm employment. However, there are rather important gaps between the standards generally prevailing in agriculture and those in nonagriculture. Considering only wage rates per hour, the position of farm workers as compared to workers in manufacturing is about the same now as 10 years ago [3].

If one examines the other terms of employment, retirement benefits, health and welfare, collective bargaining protections, etc., one would conclude that the gap has both increased and decreased. In absolute terms, farm workers have probably improved their position, but relatively they have lost ground.

The seasonal farm worker realizes a low annual income. The 1967 statistical report on the hired farm working force indicates that those migratory farm workers who had the highest average number of days employment, 240 days, realized an average annual income of \$2,824, [14] which places them in or on the margin of poverty unless this income is supplemented by the earnings of other members of the family.

Implications and Priorities of the Present Situation

In this discussion the present situation is considered to be 5 to 7 years ahead, while the future includes a time horizon of 15 to 20 years. The order

in which the implications are discussed is suggested as a possible set of priorities. No optimum properties are attributed to this ordering of considerations.

Industry

The fruit and vegetable industry is well aware of its needs for seasonal labor. Rapid technological progress has not induced the producers to disband labor recruitment organizations. The producers recognize that substantial numbers of seasonal workers will have to be recruited and employed if the present volume of fruit and vegetable production is to be maintained, even though each year additional fruit crops are being added to the list of fruits that can be harvested mechanically.

Previous reports in this series indicate that the development of trees or plants with characteristics suitable for mechanical harvesting is frequently a time consuming process. If the final product is to be modified, time will be required to determine market acceptability. Thus, for the present the problem of first priority is that of obtaining adequate supplies of seasonal labor to perform the many hand labor tasks involved in fruit and vegetable production and harvest.

But this is only part of the first implication; the recruitment of seasonal labor must be carried out in a context that is changing. The circumstances and conditions with which present patterns of meeting seasonal labor needs are in accord cannot be relied upon to prevail in the future [9]. As indicated previously, many fruit and vegetable producers have changed their labor recruitment and labor management procedures to bring them into accord with the evolving labor supply situation.

Recognition that technology is a variable subject to the control of the industry is essential if control is to be exercised. But that ability to generate and proliferate technology that will enable the industry to meet the changing situation is contingent upon the development of the appropriate mix of public and private efforts and the appropriate interest of all sectors of the industry--producers, marketing firms, processors, and farm equipment manufacturers. Recognition of this interrelationship of interests was clearly expressed by Mr. Crosby of the National Cannery Association in the previous meeting of this group [2].

The implications of supply control--that is, supply of new technology--are very interesting. If the supply of new technology is a variable that is substantially under industry control, this raises the question of structuring the pattern of new technology forthcoming so as to minimize regional peak seasonal labor requirements. It raises the possibility of surveying the demand for seasonal labor for appropriately defined labor market areas with the view of identifying those crops and operations that contribute most to the seasonality of labor requirements. Efforts could then be directed toward the

production of that technology which would contribute most to the stability of labor requirements in the region.

Following this approach would require the balancing of interests of producers among crops and among regions. It would also require the balancing of present needs with future needs. It would be appropriate to evaluate the expected long-run impact of progress in the development of new technology on production.

Wage rates in fruit and vegetable production are likely to move upward as fast currently and in the years immediately ahead as in the past. Hourly wage rates in agriculture have increased substantially in the past decade and the standards of employment have also improved; yet, the gap between farm and nonfarm terms of employment has not been substantially reduced. The pressure to raise farm wage rates that originates in farm-nonfarm comparisons does not appear to be declining currently. Further, the public interest in the welfare of seasonal farm workers is increasingly focusing attention on annual incomes. As noted above, data with respect to annual incomes realized indicate that the average professional migratory farm worker is in or on the margin of poverty.

I have the impression that implications with respect to annual earnings is not completely recognized by the fruit and vegetable industry. In discussing earnings of fruit and vegetable harvest workers, it is common for spokesmen for the industry to cite the hourly earnings of such workers as evidence that a relatively high wage is paid. It is sometimes argued that other industries are not held accountable for the level of living achieved by their workers during the off season. They cite nonfarm industries with irregular employment patterns and the relatively good public image that they retain.

On the other hand, as I have noted previously, fruit and vegetable producers in a number of states have recognized that the supply situation with respect to seasonal labor has changed substantially. Such employers have recognized that high wage rates per hour are only one of several items necessary to attract workers. They have developed pay schedules that permit the seasonal worker to earn relatively high hourly earnings (averaging over \$2 per hour in 1967) and have combined this with efforts to expand annual employment. Some of these growers voluntarily cover their workers under unemployment insurance.

Grower members of such associations have also supported the development and application of modern labor management procedures to seasonal farm employment. Their employment policies are a movement away from a casual employer-employee relationship toward a more continuing and structured relationship [3].

I have mentioned producers associations with reference to decasualization of farm work, but I would not argue that this type of organization is the optimum means of facing the issue of decasualization. In fact, it is not even certain that the issue of decasualization needs to be faced immediately. It

would be quite possible for the fruit and vegetable industry to ignore most of the implications of the present set of trends as here described. It might use such influence as it can generate to secure government assistance in retaining a special labor supply for seasonal work in fruits and vegetables. The industry could acknowledge that a production cut back is necessary to get higher product prices that would enable it to compete for labor. The industry could recruit more seasonal workers from among those individuals who do not want full year employment. No doubt a residual of individuals who presently perform seasonal farm work would be available for some years. As the casual labor supply dwindles, the production could be cut back in those crops that do not yield to mechanization. The acreage of those that are mechanized would expand.

The problem that is implied in the present situation is that of discovering those organizational structures that will enable the fruit and vegetable industry to compete for workers within the constraints of the labor market, recognizing at the same time that the labor requirements of the industry are changing in quantity and quality. Likewise the terms of employment that must be offered to attract workers are changing--becoming more expensive and complex each year. The appropriate organizational structures are those that will encourage fruit and vegetable producers to organize and operate efficient producing units and will provide an opportunity for the workers to realize their goals.

Finding the suitable structure is complicated by difference among producers in terms of size, financing, crop potentials, etc. Difference among producers is matched by difference among the individuals that make up the seasonal farm labor supply, ranging from the professional migratory worker who actively follows the occupation to the student and housewife who want only part of the year employment, to the marginal worker who takes seasonal farm work for the lack of any other alternative to the newly arrived immigrant who is doing seasonal farm work until he learns the language and gets acquainted with the country sufficiently well to look for a nonfarm job. Recruiting from this diverse group is further complicated by such factors as the increased militancy of the poor and the minority groups, and the relatively high levels of unemployment in the rural areas.

On the other hand, a part of the several hundred thousand Mexicans admitted as immigrants to the United States are currently in the seasonal farm labor force [10]. Some of these migrate to the U.S. seasonally to work on farms. Others live near the border and commute daily [8]; others have chosen to reside here permanently. Probably a major proportion of these immigrants are leaving agriculture for nonfarm occupations. The fruit and vegetable industry has an important interest in encouraging these immigrants to continue in agricultural work. No doubt the rate at which these workers will leave seasonal farm work and other agricultural work for nonfarm jobs will depend,

in part, upon the standards of employment in agriculture as compared to nonagriculture.

Government

It would seem that in the present situation first priority in government policies and programs is to give conscientious attention to the manpower needs of the fruit and vegetable industry in a manner consistent with the proposition that the manpower policy appropriate for agriculture should not in objective be different from national manpower policy. If this proposition is accepted then it is appropriate: (1) for farm labor to be included under social legislation such as unemployment insurance and labor relations legislation; (2) for manpower training and development programs to apply fully to farm labor; and (3) to provide expanded employment opportunities in rural areas [6].

Robert Goodwin, Bureau of Employment Security Administrator, in commenting on the 1969 National Rural Manpower Conference gave expression to this orientation of manpower policy. He said:

This conference offers a turning point in the employment service operation. The agenda for this meeting differs in several respects from those of past years. I believe that it truly reflects the aim which we have had for the past several years to expand our programs from their agricultural orientation to a broader approach which includes agriculture and its workers but also includes all other industries and workers [16].

It is obvious that the welfare of the seasonal farm worker as well as the nonfarm residents of the rural community is enhanced by increases in employment opportunities in rural areas. To the extent that seasonal farm workers face increased nonfarm employment opportunities, it is going to be more difficult to recruit them for farm work whether for local or distant farms. This is likely to be the case if employment standards in seasonal farm work tend to continue to fall behind in the upward movement that characterizes nonfarm employment.

The somewhat conflicting interests of the seasonal farm worker and the fruit and vegetable industry present the relevant government agencies with an interesting challenge. On one hand, the enhancement of the welfare of the workers calls for manpower training opportunities and expansion of job opportunities. On the other hand, the price and marketing situation faced by the bulk of the fruit and vegetable industry does not suggest that the costs of increased standards of employment in the fruit and vegetable industry could be easily passed along to the consumer, and at the same time retain our position in international markets.

One broad approach to this situation that might be considered currently is that of concentrating on programs to utilize the available labor force more efficiently. While pressure to increase wage rates will continue, it is questionable whether concessions in this area are likely to be sufficient to

retain seasonal labor supplies of adequate quantity and quality. It is probably that more attention and imagination will be necessary in the area of increasing the amount of farm and nonfarm employment realized annually by the workers. Equally important is a more extensive application of modern labor management to the recruitment and supervision of the seasonal worker.

To encourage cooperative efforts among fruit and vegetable producers the government might provide an incentive for those growers and groups of growers who undertake programs to enhance the annual employment of their work force. For example, let us assume for a moment that all farm workers were covered under unemployment insurance. Contributions to unemployment insurance fund could be on a sliding scale related to the success of cooperative efforts to expand annual employment realized by the workers. Alternatively, cooperative efforts to use the available labor more efficiently might be encouraged by a government subsidy. No doubt one could construct a variety of possible approaches, but it might be more useful to attempt some experimentation.

An additional comment might be made with respect to present government programs. Special programs for migratory workers such as housing, health and education, annual worker plans, etc., must have a short life or fade into more general programs of housing, health, manpower training, etc., if seasonal farm labor is not to be sheltered from the generally rising standards of employment in the economy.

Future

One of the most perceptive statements about the future that applies quite appropriately to our present look at the future was made a little more than a half-century ago in discussing the problem of seasonal hand labor in sugar beet production. A writer in the 1904 report on progress in the sugar beet industry observed:

In this country we are devoted to the production and use of labor-saving machinery. Our tendency has been away from rather than toward hand labor. In those old countries the farmer and every member of his family were workers in the beet field. Here the farmer and the hired men do the work; the children attend public schools and colleges. Our farmers and hired hands not only do the work on the farm, but as a rule they do it with labor-saving implements, the main point being to eliminate every form of drudgery [15].

Of course, we resolved this problem in the past by importing, so to speak, our labor supply to perform the seasonal hand labor tasks. It came to be widely believed that only foreigners would do the arduous handwork of labor-intensive crops.

It is fair to say that presently we are at the stage of rejecting the notion that we should import our seasonal labor supply. It is being suggested that the fruit and vegetable industry compete with other industries in the open market for labor. At the same time, the reservoirs of seasonal labor

are the subject of manpower development programs that will ultimately result in part of that labor supply moving out of the seasonal farm labor work. In looking to the future it is probably safe to assume that we have permanently turned away from programs of importing foreign labor to work in fruit and vegetable production [14]. It is also safe to assume that in the future as in the past there will be a genuine interest in minimizing drudgery.

With regard to government manpower policies and programs, it is expected that the human resource development orientation will continue [1]. Given the potential for developing new technology that exists and the international trade implications of differences in costs of production in the various countries, a variety of alternatives are possible. In considering future implications for industry and government, one can be only somewhat suggestive.

Industry

The fruit and vegetable industry has been substituting capital for labor at a relatively rapid rate. This substitution has occurred because it has been profitable. In part, it has also been an effort to reduce uncertainty with regard to labor supply, which is one aspect of labor cost. The substitution has occurred essentially because the cost of labor has risen more than the cost of substitutable capital.

If supply-price of labor continues to increase faster than that of capital, the substitution of capital for labor will continue unabated. But in the long run, being considered here, the decision with respect to substituting capital for labor is not merely one of comparing price-cost ratios for alternative methods of production. The industry, if it acts rationally, will consider the cost of developing new technology and the probable impact of new technology on profits in the industry. That is a complex process. Yet even with less than perfect information about the future values of such variables as wage rates, fringe benefits, probability of successful research, etc., it is likely that an intensive program to develop and to utilize new technology would be warranted. It is probably safe to assume that socio-economic forces will make labor-saving technology even more economic in the two decades ahead than currently.

If the direction and intensity of the socio-economic forces continue, it would seem to place a premium on efforts to decasualize the employment of seasonal labor in fruit and vegetable production and harvest. I suggested previously that decasualization might not be crucial in the immediate present or near future. But it seems reasonable to me that some form of decasualization will have widespread support in perhaps 15 years.

We can highlight the difference between a systematic decasualized labor recruitment and the casual methods that currently exist by reference to an analogy with irrigation. When water is very cheap and can be wasted without cost, it can be applied crudely, flooding the field with enough to cover even

the highest points. When water is expensive and excessive applications reduce yields, it becomes economic to apply it precisely with respect to location and quantity. In the operation of the casual labor market, labor tends to flow into the area of employment without any precise relationship to actual labor requirements. Time lost by workers because of inefficiently matching workers with jobs does not receive much attention. If lost time becomes a part of the labor cost, it will become more economical to match worker and job more precisely. I am expecting that in the future much more attention will be given to the annual income realized by farm workers, which will focus more attention to time lost in seeking work. On the other hand, matching workers and jobs more precisely will also require of the worker a more than casual attitude toward the job.

Even under the most efficient methods of matching workers and jobs and the most efficient methods of shifting workers from region to region with a minimum loss of time, it will not be possible to provide full year employment for all workers employed at the peak of the season. This is the case for the country as a whole and it is also true for most states and smaller areas. Unless the number of workers that are needed at the peak of the season can be reduced dramatically there are likely to be many seasonal workers who do not realize the amount of employment desired and needed. On the other hand, as noted previously, each year an increasing proportion of those who do farm work for hire are not seeking full year employment. There may be opportunities for recruiting more seasonal farm workers from among this group--particularly among the youth.

Thus, the long term implications of the manpower situation facing the fruit and vegetable industry are complex. The socio-economic forces are discouraging the continuation of migratory labor. Manpower development programs are seeking to increase nonfarm employment opportunities for the seasonal farm worker. The hired farm labor supply is increasingly made up of persons who do not seek full year employment. There is substantial rural unemployment, but pressures to increase farm wages are brisk. Finally, product prices and international competition do not offer easy avenues of adjustment.

It is quite obvious that the implications of this set of circumstances lie in: (1) areas of labor recruitment and management; and (2) the intensive development of technology that will reduce costs and seasonality of employment in the industry.

Government

In looking to the future it seems reasonable to expect a continuation of public support for efforts to improve the welfare of the seasonal farm worker. It is probable that the seasonal farm worker will be brought under unemployment insurance programs and that collective bargaining legislation of some type will be adapted to agriculture. Beyond these expected developments, there are a wide range of implications for government policies and programs.

Rational development of public policies and programs will require some kind of agreement on goals with respect to the fruit and vegetable industry. It will also require consideration of the interrelationships of goals and means of achieving these goals.

If one of the goals of public policy with respect to the fruit and vegetable industry is the continued expansion of the industry and improvement of its competitive position in the international market, programs that result in price increases will be of limited attractiveness.

If the goal of public policy were exclusively that of raising the standards of employment in fruit and vegetable production, then efforts to increase minimum wages, provide unemployment insurance coverage, etc., would receive first attention. The impact of higher cost on output and prices could be ignored. The declines in exports could be ignored, as could be increased imports into U.S. markets in response to higher prices.

If the public goals include the improvement in the welfare of seasonal farm workers in the fruit and vegetable industry, maintaining our position in international markets and reducing rural poverty, then a more complex set of programs is likely to be appropriate. Such a set of goals would suggest a comprehensive long-term program. Such a program would include efforts to increase the efficiency with which workers and jobs are matched. Industry would be encouraged to develop labor recruitment and management procedures that improve its ability to compete for labor. The employment of students, housewives, and others who do not want full year employment for seasonal farm work would be encouraged.

However, if the fruit and vegetable industry is to continue to supply domestic markets and maintain its position in international markets, and provide for a rising standard of employment for the labor force employed, then the factor of most fundamental importance in the long-run future is a brisk flow of new technology. New technology will permit lower cost of production with higher wage levels and reduced seasonality of employment. At the same time real enhancement in the welfare of the seasonal farm worker who is displaced by new technology calls for a new and better job--that is, expanded employment opportunities.

Finally, it might be noted that a genuine concern for the welfare of farm workers as well as an awareness of the political and social climate suggests that efforts to develop new technology for the fruit and vegetable industry must be accompanied by equally serious efforts to meet the social and economic problems that accompany technological progress if public agencies such as the Agricultural Experiment Stations and the U.S. Department of Agriculture are to cooperate in such efforts.

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RURAL WORKER ADJUSTMENT TO URBAN LIFE

An Assessment of the Research

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1

INTRODUCTION

Central to this essay is the significant question—incredibly late in coming into public awareness—how well has the rural labor force adjusted to the urban setting? At best the rural-urban dichotomy is hazy. Nevertheless, much widely divergent research has been associated with it, however imprecisely. A reviewer of research has to establish terminal boundaries for his work and in this instance—with a vague central concept and an array of no less vague peripheral associations—the cutoff boundaries have had to be rather arbitrary. Consequently, not everyone will find that specific areas or items in which he is interested have been considered.

This is not a literature of affirmation. It deals with a grim but impassively suffered episode in our national life. The research contributions concerning it are fragmental, superficial, and generally unsatisfying.

The rural-to-urban movement in American socioeconomic history is one of dual mischance. Farm people were pushed off farms and cities were agglomerated, both as by-products of forces not clearly perceived and without benefit of articulated

purpose. No deliberately formulated objective was served at either end of this disorderly transaction. Contemporary writers are fond of saying that farm technological advance made a great contribution to national welfare by freeing a labor force to serve the growing manpower needs of the nonfarm economy. To say that much is to state a truism, provided one accepts the inherent assumption that the expanded nonfarm economy has been a national blessing. But to go further, as is done, and imply that the release of farm manpower was the intended objective of farm technological advance is to place rationalization upon what was only the fortuitous result of a disorderly episode. If moving manpower from the farms had been deliberate, something would have been done to develop this resource and prepare for its effective utilization in the nonfarm world. The facts are to the contrary—miserably so. Off-farm movers have been required to adjust alone, often against bewildering and frustrating obstacles.

When the U. S. Department of Agriculture and the Land-Grant College system was initiated just over 100 years ago, it was with the anticipation that, if farmers could be helped to be more productive they would prosper and the foundations of Jeffersonian rural life would be strengthened. It was a populist and rural fundamentalist idea. But contrary to expectation, the Land-Grant College Act was to become probably the most influential prometropolitan step ever undertaken by any national government.

The expected new farm technology did materialize, though not immediately and not entirely as a result of the public effort. By helping to make food abundant and moderately priced, it contributed much to the American people. However, for farmers it contributed more to their obsolescence than to their prosperity.

In the past twenty years, the amount of labor required for farming has declined by 4.7 percent per year, the farm population by 4.3 percent per year. These rates of adjustment have brought revolutionary changes in the lives of millions. That government should continue to support farm technological advance as well as to subsidize the price-depressing consequences of surplus production was not seriously questioned; that government might assume some responsibility for those being technologically disrupted was never seriously debated until embraced in the broader consciousness of the Manpower Devel-

opment and Training Act of 1962. No real money has ever been spent on research concerning human adjustments of ex-farm people or on aiding those adjustments.

If the magnitude of disruption absorbed by the farm population had occurred in the more cohesive and articulated groupings of factory situations, the response might well have been less impassive and consequently the obligation to adjust might not have been left so exclusively to the individual.

However, a few voices were heard to question whether the massive rural-to-urban adjustment was being as successful as it seemed for either the populations involved, the communities of exodus, or the communities of relocation. That underemployment, unemployment, and poverty were persistently rural as well as urban could be known by those who wished to know. Much of what superficially seemed to be urban assimilation was only tentative emulsion; much of what seemed to be rural accommodation was only the extraordinary capacity of rural people to adjust to varying forms and intensities of underemployment.

Concern about the rural-urban population adjustment was very late in coming. Meanwhile, unsolved rural poverty problems were flowing into urban ghettos and there being transmuted into the second and third generations. Others, not relocating in urban places, were the "people left behind" of whom fourteen million were found by the President's National Advisory Commission on Rural Poverty in 1967 to be in poverty. Neither the lateness of the Rural Poverty Commission and the Commission on Civil Disorders nor the scale of subsequent response to their recommendations stands as testimonial to governmental perception in the absence of massive political pressure.

Before the mid-1960's, there was very little governmental interest in the rural labor force. Consequently, the meager research support available was oriented more to academic disciplinary interests than to "practical" matters. The principal source was the USDA-Agricultural Experiment Station funding, from which cooperative projects (usually small) could be supported between USDA and academic discipline-oriented workers in the State Experiment Stations. These agricultural fund sources enabled the development of a fair sum of knowledge concerning farm labor requirements, efficiency of labor use, underemployment, and the interrelations between these and chang-

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ing technology. Agricultural funds supported the Census-USDA series on farm population and hired labor force as well as the USDA's series on farm wages and employment, in addition to numerous studies in demography, mobility, rural community development, levels of living, and related subjects. Additionally, agricultural funds were the principal support for rural sociologists who virtually alone were interested in the assimilation of off-farm migrants and in the impacts felt by the communities of exodus and of entry.

In contrast, knowledge of the nonfarm labor force in the rural sector is almost totally lacking—that population has not had the homogeneity, power, and articulation essential to achieving identity or attention.

Notwithstanding its fragmented and dominantly academic character, the economic and sociological research relating to farm manpower has had some value in policy-making, and perhaps, the most outstanding instance is the series of cooperative USDA-State Experiment Station studies in the early 1950's on the preparedness of farmers to retire, which undoubtedly influenced the legislative decision to remove the exclusion of farmers from Social Security coverage.^{1 *}

The most serious defects of the research in this general area have been overaggregation and fragmentation. For instance, it took agricultural economists years to discover that apparently irrational behavior by off-farm migrants (in deciding when to move) was irrational only in the light of the economist's own propensity to homogenize diverse circumstances by assuming away regional and other heterogeneities. At the other extreme, many studies of assimilation have been so small and so particular that they lacked capacity for generalization.

There are at least two hindrances to acquiring useful information in this area. One is that, in contrast to an ever more rapidly changing world, statistical processes have become slower and consequently, data are obsolete before they become available. This is more a matter of uncertain financial support than of statistical technology. Another is the inherent disciplinary insulation between economists and sociologists. Their respective theorems, perceptions, and approaches to the adjustment process have never been effectively joined; consequently, their results have not been much more addable than are elephants and chickens. In the application (or testing) of academic theorems,

* Notes are at the end of each chapter.

concern has been with one aspect or another—the whole of the process was not brought under purview.

The prevailing notion of how people leave the land has probably been overinfluenced by Steinbeck's Joad family and other similar literary characters. True enough, the current migration to the North and West out of the rural deep South has some characteristics similar to the "Okie-Arkie" migration to California in the 1930's which *The Grapes of Wrath* made famous. Nevertheless, the great bulk of the movement out of agriculture has been less dramatic. Not always has it involved an entire family, an abrupt separation from the farm, or the loading of portable goods upon an old car and heading down the road—or, as now, catching the bus to Chicago with a ticket provided by a relative or friend already there.

Several quite distinct categories of rural human resource adjustment need to be recognized. The largest of all is the youth of the farm families, many of whom have performed chores or done summer work on the family farm while growing up, but who effectively started their working careers elsewhere. Where industry has expanded into rural areas, youth can enter nonfarm occupations while living at home, and their ultimate settlement upon being married may not take them out of the county or state. It may be that the exceptional attention given by rural sociologists to departing farm youth is a reflection of deep-rooted and possibly subconscious agrarian fundamentalism. To stay in the home community and in the father's occupation is not the usual practice in modern society.

Industrial expansion into rural areas, together with the building of commutable highways, has facilitated job mobility by established farmers, while easing the requirement of residence migration. Particularly in the Northeast and North Central regions, the pattern of farm size has, under farm technological advance, become too small to keep the typical operator more than partly employed. In the absence of nearby industrial employment opportunities, there would have been great pressure to make a full break with farming and to migrate. In a suitable environment, part-time farming has been a nondisruptive and quite painless adjustment, especially for those young enough to be acceptable to nonfarm employers and with enough energy to "moonlight" the farm with the help of children still at home. In the agricultural economics literature, this arrangement is usually regarded as transitional migration, ultimately ending in a full

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separation from farming. However, in practicable locations, a pattern of small farm living-commuting-nonfarm employment may prove viable and attractive. Even if the combination persists, its total magnitude has severe constraints.

Another large and heterogeneous category of rural-urban adjustment is hired farm labor—regularly hired, seasonally hired, and migratory. Excepting “plight” studies of migratory workers, this category gets little attention—research or otherwise. Nevertheless, occupational adjustments are occurring in this category that warrant acknowledgment even though they have not attracted much research interest.

Farm owners and the tenant operators who are not able to enter part-time farming or to make an occupational change without leaving agriculture and usually also migration face drastic occupational and social adjustments. If the person is a tenant, the severance can quite readily be made—leases are terminated and equipment sold, provided the tenant is a commercial farmer and not a sharecropper (the latter have special problems of getting away—mainly indebtedness to the plantation owner). In the ongoing process of farm consolidation, tenancy operations are terminated, and the land is leased to nearby owners (thereby making bigger operating units). The Census category “full owners” still accounts for most farms—since 1910, just over half of all farms. The category “part owner” (owners who lease additional land) has risen as tenants have declined. The implication is that land formerly operated by farmers who were wholly tenants is being taken over by established owners. In 1964, full owners were 57 percent of all operators and part owners were 25 percent, but the percentages of farm land controlled were respectively 29 and 48.² Tenants are rapidly disappearing, but American agrarian fundamentalism has seldom recognized their existence and then with lament, so there is very little research or political interest in their situation.

Fulltime farmers who are owners of all or part of their land are found to have the lowest occupational and residence mobility of any of the farm population. This is partly a matter of age and family and community ties as well as land ownership. As an incidental point, the expectation of further capital gains in land values has been found to be one of the deterrents to off-farm mobility.

The reason for detail in the immediately preceding comments on categories of off-farm occupational adjustment is to empha-

size that, even when stated in broad terms that ignore important regional, ethnic, type-of-farming, and similar differences, off-farm adjustment is still a multifaceted complex, and it is one in which distinctions among economic development, mobility, migrancy, and just plain growing up are not readily maintained.

Nearly nothing is known about the rural nonfarm population, and what we know is obtained mainly from subtraction, first of the urban and then of the farm populations. Demographers can determine some of the vital statistics of this arithmetic residual, but very little that is meaningful can be extracted. To be nonurban and nonfarm is little more than to be nonpeople. Although there are economic activities in nonurban areas other than farming, we know virtually nothing of the occupational interrelations among these and the farms and the metropolitan centers. The rural nonfarm activity has undoubtedly played a role, perhaps mostly transitional, in off-farm adjustment. But of the extent and character of that role, very little is known. Farm and nonfarm youth do share one supremely important attribute—they must all have been products of the same inferior school systems and, therefore, have the same basic ill-preparedness to cope with urban and modern industrial demands.

The generality of my opening statement concerning the rural-urban dichotomy as a research perspective needs specification. That I believe it has not been a fruitful perspective, that I believe it has obscured the perception of more important attributes in human development—are allegations concerning the past on which the value of argument is doubtful. Given the historical determinism of the dichotomy, there probably was little choice. But for the future, I would definitely argue against a perspective of rural versus urban as regards manpower, mobility, or occupational adjustment research.

We *are* an urban society; the questions for the future are not urban *versus* rural but rather *what kind of urban*. Obviously, the concept of urban implied is not density of settlement or distance away from a metropolitan center but rather the quality of urbaneness in the population. Even though the hinterlands are likely to remain, it is not to be assumed or expected that they will (or ought to!) be inhabited by hinterlandish people, for whom hinterlandish institutions of human development are sufficient.³

Consequently, for the future, fruitful research in the area of

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rural-urban adjustment should, in my view, start from a view of persons with equal potential (that is, equal inherent capacity, equal values, equal motivations) who inhabit a socioeconomic system of unequal access (to opportunities and privileges, including principally those of preparation and development).

From that perspective, obstacles to adjustment should be clearer, and whatever corrections the political system is able to make should be less faltering.

NOTES

1. Some examples: Walter C. McKain, Jr., Elmer D. Baldwin, and Louis J. Ducoff, *Old Age and Retirement in Rural Connecticut*, Connecticut Agricultural Experiment Station Bul. 299 (Storrs, 1953), 51p.; William H. Sewell, Charles E. Ramsey, and Louis J. Ducoff, *Farmers' Conception and Plans for Economic Security in Old Age*, Wisconsin Agricultural Experiment Station Research Bul. 182 (Madison, 1953), 22p.
2. U.S. Bureau of the Census, *U.S. Census of Agriculture; 1964*, Vol. II, General Report, Chapter 8, pp. 763-64.
3. If my terms seem to be murky, the brief discussion of a proposed new hinterland ecology as a substitute for traditional rurality in the following section may clarify.

3

THE BASIC EXPELLANT: AGRICULTURAL TECHNOLOGICAL ADVANCE

Dating primarily from 1950, a considerable body of research literature has been developed which deals with technological change in agriculture—rising labor productivity, the demand for farm labor, the level of farm employment (including underemployment), and the interrelations among these variables. Even without this literature, the aware citizen would have been conscious of the virtually truistic main finding of those writings—namely, that career and employment opportunities in farming have been sharply declining. Former farm residents in urban populations, including relatives and friends, are sources of lay information on individual situations and experiences, including explanations as to why some farm youths did not enter farm careers and why some farmers have quit, and why some have returned to farming. While the lay information may have lacked ultimate explanatory sophistication, it has been sufficiently communicative to instill the understanding that the departure from farms was not entirely a matter of freely elected preference for urban life and nonfarm occupations.

For the individual farmer, farm youth, or hired worker, technological change is encountered in price (wage) and income

terms—very few have simply been replaced by a machine, as might happen in a factory or mine or in construction. Direct displacement has occurred, as in cotton picking and other hand-harvest activities, but since the workers were generally seasonal or migratory, they had no established job rights and no firm employment relationships from which to be separated. Direct displacement has also occurred for sharecroppers and tenants when landlords needed their land to use new machinery effectively.

In terms of the impact of changing technology upon their situation, wage laborers and sharecroppers have been little noticed. In contrast, the cost-price squeeze dilemma, which for present or would-be individual farm entrepreneurs is the central impact of technological change, is well and widely known—to bankers, politicians, researchers, and citizens generally.

A parenthetical point to be noted is that the cost-price squeeze of the 1950's and 1960's has been comparatively free of the harshness of foreclosure and bankruptcy that was so characteristic of earlier decades. This difference results from the fact that technological change, while decreasing the demand for labor, has increased the demand for land; with an intense demand for land, farmers could terminate with income or capital gains from renting or selling their land, and thereby depart solvently, and often comfortably. This also has been one pleasant factor in the choice of farm-inheriting offspring who decided not to continue in their fathers' occupation.

When this nation committed itself to promoting technological progress in agriculture—by the Morrill (Land-Grant College) Act in 1862 and the Smith-Lever (Agricultural Extension) Act in 1914, the then distant outcome which has only recently been realized, was completely unanticipated. The expectation was that the farmers would prosper if they could be shown how to be more efficient. Economic analysis, which is now sufficiently endowed with theory and empirical coefficients to explain approximately what happened, was not then (and may not be yet) sufficiently equipped to identify and project the impacts of technological change. Agricultural economists and the body of knowledge they have developed arrived on the scene only in time to demonstrate that the miscarriage of the dream of millions of farmers being made ever more prosperous by higher orders of productive efficiency was not due to sinister political forces but only the rational outcome of invincible economic laws.

The generally accepted measures of technological and

productivity changes and their interrelations with aggregate farm labor requirements are well summarized by Walter R. Butcher in work done for the National Commission on Technology, Automation, and Economic Progress.¹ The basic facts correlate with, and implicitly explain, the reductions in farm population and labor force that were mentioned in the preceding section.

Gross factor productivity, i.e., output in ratio to all inputs, has risen sharply and continuously since 1920. Even more spectacularly, the charted indexes of total labor input and of output per man-hour have diverged at almost right angles since 1940. If agricultural output had faced an indefinitely expandable market, total production could have been more greatly increased and thereby enabled the retention of a greater proportion of the earlier farm labor force. But the market had not had sufficient absorptive capacity to offset gains in productivity; consequently, the intermediating mechanism relating increases in productivity to labor force adjustments has been the generally adverse farm price and income outlook. Given this outlook, thousands of farm youth have had to decide, individually, whether to stay with the family occupation, and fewer thousands of farmers have had to decide, also individually, whether to continue. This decision-making process is quite different from that of a few large industrial managements, each of which makes a single decision affecting the careers of thousands of workers.

Measures and concepts of productivity are seldom as self-evident as they appear. The widely quoted indexes of farm output—total and per man-hour—obscure the fact that over the years inputs utilized on the farm have increasingly been produced by labor employed off the farm. At the other end of the process, preparing, packaging, and marketing activities that formerly were done on the farm have been transferred to off-farm industries. Consequently, the work done on the farm has been foreshortened both ways. Nevertheless, the ratios in common use attribute the raw product only to that labor employed on farms and hence exaggerate rises in farm labor productivity.

An inherent problem that plagues the makers of indexes of change in productivity is the difficulty of maintaining homogeneity in time series when large changes are occurring in products as well as in processes. Since farm products have remained fairly homogeneous, it is mainly on the input side that measurement of agricultural productivity changes become elusive.

In a recent and sophisticated analysis, Folke Dovring employed the concept of aggregated labor to overcome some of the limitations of the above-described gross or partial productivity ratios.² His aggregates included nonfarm labor used to produce and service production requisites as well as the direct labor used on farms. Inputs usually incorporated in gross productivity measures, such as land rent, interest on capital, and property taxes, are excluded in the Dovring analysis. Consequently, with respect to labor use, all farms and their suppliers are treated as a subsystem of the economy. Dovring found that indirect labor had remained fairly stable at 1.5 million to 2 million man-years from 1919-65, but that "industries and services supplying farm requisites have increased their productivity to such a degree that they have been able to supply a vastly increased physical volume of goods and services without using up any correspondingly increased portion of the nation's work force."³

Gross on-farm labor productivity ratios incorporate and reflect these off-farm productivity gains. They also incorporate the effects of other inputs that are not usually accounted for, including government services affecting knowledge, education, health, and the quality of the production environment.

Workers employed on farms are unquestionably able to work more effectively than formerly, but this has happened only as part of a comprehensive transformation in which society at large has participated. Viewing the process in these broader terms, Dovring found that the acceleration in agriculture productivity started not in 1940, but in 1919.

Perhaps if researchers had been able to provide an earlier and clearer vision of the comprehensive technological process, the formation of government policy for agriculture could have centered more appropriately on facilitating manpower adjustment rather than upon futile efforts to reshape price and market structures.

In any event, the farm manpower adjustment process is not yet complete. Reciprocally, as the voluminous documentation of the urban crisis testifies, substantial portions of the first, second, and third generations of off-farm migrants are still in an unstable state of nonassimilation. Evidence that further off-farm movement is yet impending is supplied by a recent research report for the North Central region.⁴ In this work, projections were made of the minimum cost (i.e., optimum resource use) and market-clearing reorganization of farms in 1980—a state

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reflecting the economists' concept of equilibrium. To achieve this by 1980 would require fewer and larger farms, less labor, and less capital than were reported by the Census for 1959 (and most certainly less than will be reported for 1969). Numbers of farms would have to continue to decline at the observed rate for 1949-59; labor (all inputs at the farm level) "would require a constant accrual percentage decrease equal to that observed in the 1939-59 period."⁵ At the projected 1980 adjustment for this region, there would be 350,000 farms compared with over 1.1 million in 1959.

The North Central region may not be completely representative of all other regions. Nevertheless, there is probably no region that has reached its plateau of farm adjustment; the unknowns relate not to direction of change but to future rates and final plateaus.

NOTES

1. Walter R. Butcher, *The Employment Impact of Technological Change*, Appendix Volume II, Studies prepared for the National Commission on Technology, Automation, and Economic Progress (Washington, D.C., 1966), pp. 141-52.
2. Folke Dovring, *Productivity of Labor in Agricultural Production*, Illinois Agricultural Experiment Station Bulletin 726 (Urbana, 1967).
3. *Ibid.*, p. 13.
4. *Efficient Organization of the Farm Industry in the North Central Region of the United States in 1959 and 1980*, Iowa Agriculture and Home Economics Experiment Station, Research Bulletin 560 (Ames, 1968).
5. *Ibid.*, p. 110.

MAJOR STATISTICAL SERIES
OF THE
U.S. DEPARTMENT OF AGRICULTURE

How They Are Constructed and Used

VOLUME 7. FARM POPULATION AND EMPLOYMENT

U.S. Department of Agriculture
Agriculture Handbook No. 365

November 1969

FOREWORD

This series of volumes updates Agriculture Handbook No. 118, *Major Statistical Series of the U.S. Department of Agriculture*, which was published in 10 volumes during 1957-60. The Foreword to that handbook, signed by O. V. Wells, still is an excellent statement to introduce this series:

We in the United States probably have the best agricultural statistics in the world. Moreover, these statistics are constantly improving; they are becoming more accurate and more comprehensive. Farmers, businessmen, administrators, and legislators have come to rely more and more on statistics—to tell them what's happening, to show where the economic problems are, and to assist in finding answers or serving as guidelines both for current activities and planning ahead.

This is good, of course. Statistics are to be used—not to gather dust on a library shelf. But the user of statistics must always be on guard against misinterpretation. This is increasingly important as our statistical series become more numerous and more detailed. It is not unusual for those on different sides of a transaction or an argument to use the same statistical series. In such cases, a good working knowledge of what the series does or does not measure is essential.

This being true, the careful student always wants to know exactly what any statistic represents. What concepts and definitions are used? How are the data obtained, tabulated, and analyzed? What is known about their accuracy and reliability? How is this particular series related to others?

This handbook is intended to help answer such questions. It is designed to be a ready and useful reference. It describes each of the major statistical series of the United States Department of Agriculture, discusses its uses, and compares it with related series published by USDA or other agencies of the U.S. Government.

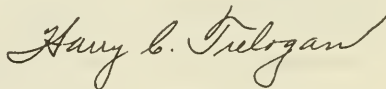
Inasmuch as about 10 years have elapsed since publication of Agriculture Handbook No. 118, a Statistical Review Board was established in July 1967, by Secretary's Memorandum No. 1618, to conduct a survey and evaluation of all statistical series issued by the Department of Agriculture in the

light of current circumstances. Names of members of the Board are listed inside the front cover of this volume.

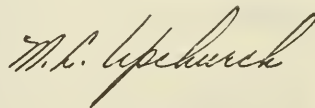
One purpose of this review was to assure, insofar as possible, that the needs of the Department and the public for statistical information are met most effectively and efficiently, and that the sources of data and methods used meet the highest standards of accuracy and objectivity consistent with resources available.

Another purpose was the publication of these revised volumes, to describe changes in methods and coverage that have been adopted since Agriculture Handbook No. 118 was issued. Series which were not described in that handbook, but which have increased in importance in the past 10 years, are included in the new edition, as well as series which came into existence during that period. Series which have been discontinued are noted in appropriate volumes.

We hope to keep the handbook up to date by adding new volumes when important new series are published, and by revising individual volumes when major changes are made in concepts or in methods with respect to the particular series covered.



HARRY C. TRELOGAN,
Chairman.



M. L. UPCHURCH,
Vice Chairman.

Chapter 2. Farm Employment, Wage Rates, and Earnings Estimates

By GENE ROWE and CLARA E. McILWAIN, *Economic Development Division, Economic Research Service**

The series described in this chapter are published in *Farm Labor* (issued monthly by SRS) and *The Hired Farm Working Force of (year)* (issued annually by ERS).

GENERAL DESCRIPTION

Two farm employment statistical series are published by the Department of Agriculture:

(1) A monthly series estimating the total number of persons (farm operators and unpaid family members, and hired workers) who do farmwork during the last full week in the month, together with quarterly wage rates for farmwork.

(2) An annual series estimating the number of

persons paid to perform farmwork at any time during the calendar year, and their average daily and annual earnings.

The annual series normally shows considerably higher numbers than the monthly series on number of hired workers during the survey week. This follows from the fact that the persons working in one month are not necessarily the same persons as those who worked the previous month. Some rotation in and out occurs, from farm to nonfarm jobs and between employed and not employed. The annual series, by counting all persons who worked at any time during the year, clearly should include a larger number of persons than those working in any one week.

Differences between the two series are shown in detail in table 5.

TABLE 5.—*Coverage of USDA farm employment series*

Item	Monthly series	Annual series
Name of publication.....	<i>Farm Labor.</i>	<i>The Hired Farm Working Force.</i>
Agency publishing.....	SRS.	ERS.
Frequency of publication.....	Monthly.	Annually.
Interval reported.....	Last full week not including last day of calendar month.	1 year.
Population included.....	Farm operators who worked 1 hour or more and unpaid family members of all ages who worked 15 hours or more. Hired workers of any age who worked for pay.	Persons 14 years old and over who performed farmwork for cash wages at any time during the year.
Respondent.....	Farm establishment (mail questionnaire).	Individuals (personal interview).
Sample.....	Nonprobability sample of voluntary reporters.	Probability sample of households.
Area coverage.....	National; 9 regions; States.	National; 4 regions.
Data reported.....	Employment: Index, number of persons, hours. Wages: Index, rates by 9 different hiring arrangements.	Employment: Number of persons, number of days. Wages: Total for year, average and median daily.
Definitions.....	Farm and farmwork as defined by Bureau of the Census.	Same as monthly series.

*Gene Rowe was with SRS when this chapter was written.

Historical Background

The Department of Agriculture has published estimates of farm employment on farms of crop reporters since 1919. From 1919 to 1923, however, the employment estimates were quarterly percentages, presenting the supply and demand for farm labor as a percentage of normal. Beginning in 1923, data were collected and published monthly on the number of family workers and hired workers employed on farms. Monthly estimates were revised in 1938 for the period 1910-36 and were revised again in 1948 to conform to the definitions of farmwork adopted in 1948. The estimates are published by USDA's Statistical Reporting Service in *Farm Labor*.

Quarterly wage rates are also published in *Farm Labor*. The farm wage rate series of SRS began in 1866, but until 1908 the surveys were not made regularly. From 1909 to 1923 one survey was made each year, and since 1923 wage rate data have been collected quarterly on January 1, April 1, July 1, and October 1.

In 1945, an annual statistical series was initiated by the Department on the number of workers hired to perform farmwork for cash wages at any time during the year, and their average earnings. This statistical series has been published every year since 1945, except for 1953 and 1955. It is published by USDA's Economic Research Service in *The Hired Farm Working Force*.

MONTHLY FARM EMPLOYMENT AND QUARTERLY WAGE RATES

Annual average estimates of farm employment and wage rates for 1954-68 are shown in table 6. Estimates are published monthly in *Farm Labor*.

Farm Employment

The complete SRS farm employment series gives (1) annual average estimates of total farm employment for 1910 to date, (2) monthly estimates (for one designated week each month) from 1940 to date for the United States and for nine major geographic divisions of the country, and (3) monthly and annual averages by States from 1950 to date. Separate estimates are shown for farm family workers and for hired farmworkers.

The SRS series on number of farmworkers is the only series providing information by States

and regions, or showing separate estimates for (a) farm operators and family members working 15 hours or more during the survey week without receiving cash wages, and (b) hired workers (for pay). Related information on number of hours worked during the week is collected. These data provide part of the data on inputs to agricultural production, both in the aggregate and by States or regions, and comprise part of the pattern of employment information. Such data are essential to effective economic analysis of the productive process as well as of the labor force.

Definitions and Concepts

Definitions and concepts of farmwork used historically for the series relate to the number of workers on places considered by the Department as farms. The Department has traditionally tried to follow the definition of farms and farm labor used in the Census of Agriculture. The Census definition of farmwork in 1959, 1964, and 1969 included as farmwork any work, chores, or planning necessary to the agricultural operation of a farm. In 1959 specific instructions were provided Census enumerators indicating activities to be considered farmwork. The activities are listed in the 1959 Census of Agriculture (Vol. II, Gen. Rpt., p. 227), as follows:

- Include as farm labor any work, chores, or planning necessary to the agricultural operations of the place, such as the following:
 - Working fields, orchards, or home gardens.
 - Feeding and caring for livestock and poultry.
 - Irrigating crops.
 - Hauling feed, fertilizer, and other supplies to the farm or ranch.
 - Cleaning and caring for milk pails and separators.
 - Maintaining and repairing machinery and other farm equipment.
 - Regular farm help used in constructing or repairing farm building and fences.
- Contract farm work for which labor is hired, but for which machines and equipment are furnished by the farm operator.
- Contract work done by persons supplied by a labor contractor or by cooperative organizations such as a citrus cooperative.
- Planning farm or ranch work.
- Keeping farm or ranch records.
- Supervising hired farm employees.
- Cutting firewood, fenceposts, timber pulpwood, etc., except by persons specifically hired for this purpose.

TABLE 6.—*Farm employment and wage rates; Average number of persons employed, average wage rates by classes, and indexes, United States, 1954-68*¹

Year	Employment					
	Total employment		Family workers ²		Hired workers ³	
	Average number of persons	Index 1910-14=100	Average number of persons	Index 1910-14=100	Average number of persons	Index 1910-14=100
	<i>1,000 persons</i>		<i>1,000 persons</i>		<i>1,000 persons</i>	
1954.....	8,651	64	6,570	65	2,081	61
1955.....	8,381	62	6,345	62	2,036	60
1956.....	7,853	58	5,900	58	1,953	57
1957.....	7,600	56	5,660	56	1,940	56
1958.....	7,503	55	5,521	54	1,982	58
1959.....	7,342	54	5,390	53	1,952	57
1960.....	7,057	52	5,172	51	1,885	55
1961.....	6,919	51	5,029	49	1,890	56
1962.....	6,700	49	4,873	48	1,827	54
1963.....	6,518	48	4,738	47	1,780	52
1964.....	6,110	45	4,506	44	1,604	47
1965.....	5,610	41	4,128	41	1,482	44
1966.....	5,214	38	3,854	38	1,360	40
1967.....	4,903	36	3,650	36	1,253	37
1968.....	4,746	35	3,532	35	1,213	36

Wage Rates										
Per month		Per week		Per day			Per hour		Index numbers of composite wage rates 1910-14=100	
With house	With board and room	With board and room	With-out board or room	With house	With board and room	With-out board or room	With house	With-out board or room		
<i>Dollars</i>	<i>Dollars</i>	<i>Dollars</i>	<i>Dollars</i>	<i>Dollars</i>	<i>Dollars</i>	<i>Dollars</i>	<i>Dollars</i>	<i>Dollars</i>		
1954.....	151.00	120.00	29.00	37.50	4.10	5.30	5.30	0.74	0.81	508
1955.....	154.00	123.00	29.75	38.00	4.20	5.40	5.30	.74	.82	519
1956.....	161.00	128.00	31.50	39.50	4.45	5.60	5.60	.77	.86	542
1957.....	168.00	133.00	33.00	41.25	4.60	5.80	5.80	.80	.88	560
1958.....	176.00	137.00	33.75	42.50	4.80	6.10	6.00	.82	.92	582
1959.....	186.00	144.00	34.75	44.50	5.10	6.30	6.40	.85	.95	614
1960.....	192.00	149.00	35.50	45.75	5.30	6.50	6.60	.88	.97	629
1961.....	195.00	151.00	35.75	46.50	5.30	6.50	6.60	.90	.99	642
1962.....	200.00	155.00	37.00	47.75	5.60	6.70	6.90	.92	1.01	658
1963.....	206.00	159.00	37.50	48.50	5.70	6.90	7.10	.94	1.05	677
1964.....	212.00	162.00	38.50	49.50	5.90	7.10	7.30	.97	1.08	695
1965.....	223.00	170.00	40.25	51.50	6.20	7.40	7.60	1.03	1.14	732
1966.....	243.00	185.00	43.50	55.75	6.70	8.00	8.20	1.10	1.23	792
1967.....	262.00	200.00	47.50	60.50	7.50	8.60	9.00	1.18	1.33	862
1968.....	283.00	216.00	52.50	66.50	8.20	9.30	9.90	1.28	1.44	931

¹ Average number of persons employed during 1 survey week each month. Survey weeks selected are the latest calendar week that excludes the last day of the month.

² Includes farm operators doing 1 or more hours of farm work and members of their families working 15 hours or more during the survey week without cash wages.

³ Includes all persons doing farmwork during the survey week for pay.

Source: *Farm Labor*, January and March issues.

Do not include:

Housework.

Contract or construction work.

Custom work for which equipment and operating labor are hired such as custom combining, hay baling, etc.

Repair, installation, or construction work done by persons employed specifically for such work.

Data and Methods Used

Farm employment estimates are based on the following data: (1) Benchmark data from the Census of Population for 1910, 1920, and 1930, from the Census of Agriculture for 1940, 1950, 1954, and 1959, and from nationwide annual sample surveys made by SRS since 1965; (2) estimates of farm employment from nationwide enumerative sample surveys made at intervals during 1945-48, which, together with historical data on the seasonal distribution of man-hour labor requirements in farm production, were used to develop measures of seasonal variation; (3) returns from a monthly mailed questionnaire on employment on farms of crop reporters, available since 1925, which indicate change in average employment per farm; and (4) annual estimates of the number of farms by States and regions, which are used to expand "adjusted" average employment per farm to obtain regional and national estimates of total farm employment and of the family and hired worker components of the total.

The universe is those places defined by the Census of Agriculture as farms in the 48 conterminous States. The sample is a general-purpose nonprobability sample of "general" farms. A mail questionnaire—directed to voluntary reporters and known as the "Farm Report"—is used, primarily for reasons of economy. Each farm operator is requested to report hours worked on the farm; number of unpaid family members and hours worked; and number and hours for farmworkers paid directly by the farm operator. Averages per sample farm are computed and adjusted to a "per all farms" level by multiplying by factors which vary from month to month seasonally, based originally on surveys in the mid-1940's. The adjusted per farm averages are expanded to State totals by multiplying by the number of farms and summing by regions and for the United States. Conventional statistical measures, such as probable error, standard error, and confidence limits, are not available since the source of data is not a probability sample.

Use of the Series

Estimates of farm employment are used for a variety of purposes by Federal and State agencies directly or indirectly concerned with agricultural manpower problems, as well as by farmers' organizations and other private agencies. Within the Department of Agriculture both action and research programs require information on the trend in the size and composition of the farm working force for the United States as a whole, in as much geographic detail as it is possible to supply.

Federal, regional, and State agencies with responsibilities in administering programs of farm labor recruitment and placement utilize these regional and national estimates of farm employment in their program planning and in their evaluation of the effectiveness of existing programs with a view to progressive improvement in the services offered to farmers and farmworkers. Agricultural policy and program development require for many purposes information on the farm manpower situation for use by administrators and by congressional committees and members of Congress. Regional and national estimates of current and historical changes in the size and composition of the farm working force form an integral part in analyses of the current and prospective developments in the farm manpower situation. One important change occurring in agriculture currently is the effect of technological advances, which reduce farm labor requirements and change the types of skills required.

Agricultural economists and rural sociologists in the State agricultural colleges and experiment stations, in the course of their research on many types of agricultural problems, require information on changes in the farm working force and make substantial use of these statistical series. In combination with other relevant data, current and historical estimates of farm employment permit the exploration of the effects of agricultural and nonagricultural conditions on patterns of use of labor in agriculture. Such analyses often permit appraisal of prospective developments that have important current application to the Department's activities in helping farmers to meet manpower problems by adopting laborsaving machinery or other practices.

As farmers become more and more dependent on laborsaving equipment, the need for more localized and more detailed information concerning

numbers of farmworkers by type of farm and type of work, together with their wages and earnings, has become more urgent. Particularly serious problems arose when the legislation (Public Law 78) permitting the employment of Bracero labor expired in December 1964, and a critical labor situation developed in several States. The lack of accurate detailed historical information by localities hampered efforts to determine labor needs objectively and fully. In other situations where labor shortages developed or wage determinations were required—for example, for offshore contracting—the need has been evident for historical data in more detail than has been available for comparison purposes. Changing labor patterns involving farm mechanization have added impetus to the needs for relevant data, both current and historical.

Limitations of Series

As these series show the trend in employment by the farm operator only, they do not in themselves indicate changes in total labor input going into agricultural production. To obtain a measure of total labor input, supplementary information is needed on number and hours worked by all farmworkers, including those performing custom or contract farmwork in the agricultural service category.

Because the estimates of farm employment include both persons who work full time during the survey week and those who work part time, the 12-month average employment shown for each year is not to be interpreted as equal to a corresponding number of man-years of labor used in agriculture. Then, too, there may be some duplication in the count of workers, as those persons working on more than one farm during the survey week, theoretically at least, are counted more than once. Duplication of this type is inevitable in a statistical series on employment, whether agricultural or nonagricultural, based on reports from the employing establishment (e.g., reports from farmers in the case of agriculture).⁵ The total level of farm employment shown in these series is probably greater than an unduplicated estimate of full-time equivalent workers in agriculture. This is the case because of the presence of many short-time workers in the farm labor force, the

inclusion of still others who work at both farm and nonfarm work during the survey weeks but who are primarily employed in nonagricultural work, and the duplication of those workers who work on more than one farm within the survey week. These statistical and conceptual characteristics of SRS estimates of farm employment need to be kept in mind, particularly with respect to those uses of the data that require an absolute estimate of the number of farmworkers which is unduplicated, or that require a measure of employment on a full-time equivalent basis.

With certain limited resources made available for the purpose, SRS is developing a probability type survey, using a combination of mail, telephone, and personal data collection with the objective of providing more accurate and more detailed data on farm employment than that available from the Farm Report. Four small quarterly surveys were made in fiscal 1969. Future developments depend on availability of resources.

Farm Wage Rates

The source of information in all years has been the Farm Report. The inquiries request reporters to supply "average rates being paid to hired farm labor in your locality." The questions relate to nine different hiring arrangements:

1. Per month with house
2. Per month with board and room
3. Per week with board and room
4. Per week without board or room
5. Per day with house
6. Per day with board and room
7. Per day without board or room
8. Per hour with house
9. Per hour without board or room

A composite or weighted average rate per hour is computed by converting the monthly, weekly, and daily rates to an hourly basis and weighting the rates by approximate distributions of workers hired by the different arrangements. The weights used to compute the composite wage were derived from a quarterly survey of agriculture made in 1948.

The composite wage rate series is subject to a number of objections, namely: (1) Wage rates paid by larger commercial farms are not adequately reflected in the composite rate for some States, especially salaries received by persons such as foremen and earnings of piece rate workers; (2)

⁵ This is not the case for data derived from a household survey. For comparisons with such series see the section on "Related Statistical Series" in this report.

because of the underrepresentation of farms producing labor-intensive crops, the series tends to underrepresent labor for the fruit and vegetable crops; (3) the series is not based on specific data on piece rate workers; (4) although the composite rate per hour includes an allowance for piece rate workers on the assumption that they earned the same hourly wage as workers without room and board, the validity of this assumption is open to considerable question.

Uses of Wage Rate Series

One of the major uses of the farm wage rate series is in the Parity Index—i.e., the Index of Prices Paid by Farmers for Commodities and Services, Including Interest, Taxes, and Farm Wage Rates. The inclusion of wage rates in the Parity Index is required by law.⁴ Another use is made of it in preparing the cash wage bill series of the Economic Research Service. As farm wage rate data measure one of the costs of running a farm, they are of value to agricultural economists in the analysis of farm business.

The farm wage rate data, however, do not include wage rates for piece rate workers. Survey procedures for this series are not adequate to obtain appropriate payment or earnings data for incorporating earnings or piece rates as an integral part of the wage rate series. The four new surveys made by SRS in fiscal 1969 indicated that piece rate workers account for from a tenth to perhaps a quarter of all farmworkers in the United States, varying from season to season and from State to State, and receive up to 50 percent more on a time basis than other hired farmworkers. This is not to say how their annual earnings compare with those of other hired farmworkers.

Use of these wage rate data, therefore, should be made with full recognition of what the data measure. Wage rates are in terms of payments per unit of time. They are not a measure of earnings, nor do they include Social Security or other types of fringe benefits. Comparisons between rates for farmwork and for industrial work, for example, should be made with caution. Neither set of rates includes certain nonwage items that may add substantially to the real income and incentives of the worker.

⁴ Beginning January 1, 1950, the effective date of the Agricultural Acts of 1948 and 1949 (Public Law 897, approved July 3, 1948, and Public Law 439, approved October 31, 1949).

ANNUAL HIRED FARM WORKING FORCE AND EARNINGS

ERS publishes annual estimates of the total number of persons 14 years old and over who did farmwork for cash wages at any time during the calendar year. Also reported are days employed, earnings from farm and nonfarm work, and personal characteristics of hired farmworkers. Estimates are provided for four regions and the United States. These estimates are derived from a survey conducted once a year under contract by the Bureau of the Census for ERS, and published in *The Hired Farm Working Force*. Each annual publication contains statistical data for the preceding year plus a historical table on numbers of farmworkers.

U.S. estimates of numbers of workers and earnings from farm and nonfarm work are shown in table 7.

Each December, ERS sponsors supplementary questions for the CPS questionnaire to be asked of all persons who did paid farmwork at any time during the year. Special questions designed to provide information on current or emerging issues are also added to the questionnaires from time to time, and the results are analyzed and published as special reports. Special information of this type now under consideration for future surveys includes duration of employment and unemployment of farm wageworkers throughout the year, training, and other characteristics of regular hired farmworkers; household relationships, family income and size of households in which there are hired farmworkers, and specified characteristics of the heads of these households; and the number and migratory status of children under 14.

Not included in the annual estimates are persons who died, entered the Armed Forces, or were otherwise removed from the civilian noninstitutional population before the survey. Foreign nationals who did farm wagework and returned home before the survey are not included. The number of foreign nationals admitted for farm wagework has become very small since the termination of the Bracero program, and totaled only 13,323 in 1968.

Use of Series

The agricultural scene is undergoing significant changes—including improved technology (involving increased mechanization, with accompanying

TABLE 7.—Average days worked and wages earned at farm and nonfarm wagework for all farm wageworkers, by duration, United States, 1959-68

Year and duration	Number of workers ¹	Farm and nonfarm			Farm			Nonfarm		
		Days worked	Wages earned		Days worked	Wages earned		Days worked	Wages earned	
			Per year	Per day ²		Per year	Per day ²		Per year	Per day ²
1959	Thousand	Number	Dollars	Dollars	Number	Dollars	Dollars	Number	Dollars	Dollars
Total workers.....	3, 577	119	814	6. 85	88	524	5. 95	31	290	9. 40
25 days or more.....	2, 166	161	1, 038	6. 45	138	829	6. 00	23	209	9. 00
Less than 25 days.....	1, 412	54	471	8. 70	12	57	4. 90	42	414	9. 75
1960										
Total workers.....	3, 693	122	845	6. 90	86	537	6. 25	36	308	8. 50
25 days or more.....	2, 162	167	1, 125	6. 70	139	879	6. 30	28	246	8. 65
Less than 25 days.....	1, 531	58	450	7. 75	11	55	5. 10	47	395	8. 40
1961										
Total workers.....	3, 488	108	788	7. 30	77	502	6. 50	31	286	9. 30
25 days or more.....	1, 889	156	1, 054	6. 75	134	881	6. 55	22	173	7. 90
Less than 25 days.....	1, 600	51	473	9. 20	10	54	5. 30	41	419	10. 15
1962										
Total workers.....	3, 622	115	896	7. 80	81	549	6. 80	34	347	10. 15
25 days or more.....	2, 067	160	1, 164	7. 25	134	913	6. 80	26	251	9. 65
Less than 25 days.....	1, 555	55	540	9. 80	10	65	6. 45	45	475	10. 60
1963										
Total workers.....	3, 597	107	818	7. 60	76	483	6. 35	31	335	10. 75
25 days or more.....	1, 862	158	1, 087	6. 85	138	883	6. 40	20	204	9. 90
Less than 25 days.....	1, 735	52	529	10. 15	9	54	5. 55	42	475	11. 20
1964										
Total workers.....	3, 370	118	956	8. 05	80	578	7. 15	38	378	10. 10
25 days or more.....	2, 001	156	1, 213	7. 75	129	933	7. 20	27	280	10. 25
Less than 25 days.....	1, 369	62	581	9. 35	9	57	5. 85	53	524	10. 00
1965										
Total workers.....	3, 128	123	1, 054	8. 55	85	650	7. 55	38	404	10. 85
25 days or more.....	1, 864	165	1, 316	7. 95	137	1, 045	7. 60	28	271	9. 65
Less than 25 days.....	1, 264	60	668	10. 95	9	66	6. 80	51	602	11. 75
1966										
Total workers.....	2, 763	128	1, 279	10. 00	85	731	8. 55	43	548	12. 85
25 days or more.....	1, 634	171	1, 605	9. 40	138	1, 188	8. 60	33	417	12. 60
Less than 25 days.....	1, 130	66	807	12. 20	9	70	7. 45	57	737	13. 00
1967										
Total workers.....	3, 078	121	1, 295	10. 70	84	817	9. 70	36	477	13. 25
25 days or more.....	1, 740	172	1, 761	10. 25	142	1, 389	9. 80	29	371	12. 80
Less than 25 days.....	1, 338	54	690	12. 75	9	74	8. 20	44	615	13. 95
1968										
Total workers.....	2, 919	116	1, 346	11. 60	79	834	10. 55	36	512	14. 20
25 days or more.....	1, 620	162	1, 793	11. 05	135	1, 434	10. 60	27	358	13. 25
Less than 25 days.....	1, 299	59	789	13. 35	10	85	8. 50	48	703	14. 65

¹ Numbers of workers are rounded to the nearest 1,000 without being adjusted to group totals.

² Average daily wages for calendar year are rounded to the nearest 5 cents.

Source: *The Hired Farm Working Force*.

increased skill levels required in farm and rural nonfarm occupations), rural-urban migration, and related changes in the socioeconomic characteristics of the rural labor force. The hired farm working force series provides the only national primary data available on total annual employment and personal and economic characteristics of hired farmworkers. The demand for these statistics and estimates that can be derived therefrom has intensified in recent years because of increased emphasis on the human input in agriculture. The series is used in making public policy and program decisions, both legislatively and administratively, by the Congress and other Federal agencies—especially the Departments of Labor and of Health, Education, and Welfare. It is also used by various committees appointed by the President, such as the Committee on Rural Poverty and the Food and Fiber Commission.

State agricultural colleges, experiment stations, extension services, and individual research workers make use of the series for teaching and research purposes. Farm and farm-allied organizations, libraries of educational institutions, embassies here and abroad, trade journals, labor union publications, newspapers and other mass media, religious groups, and organizations interested in farm labor are examples of users of the data.

Definitions *

Following are some of the key terms used in the survey of the hired farm working force:

Farmwork for cash wages or salary.—This consists of (1) paid work done in connection with the production, preparation for market, or delivery to market of agricultural products; (2) paid work done on and off the farm by a hired farmworker in connection with the normal maintenance and routine farm business, including repairs to farm buildings and machinery, and trips to town to buy farm supplies; and (3) the management of a farm business for cash wages. (For a more detailed explanation see page 8.)

Farmwork for cash wages or salary does not include (1) work done by a farmer on his own farm; (2) "exchange" work done between farmers without pay; (3) work for any "payment in kind," e.g., receiving goods and/or services in lieu of cash

wages; (4) work done without pay, or for a token cash allowance, on a family farm by a member of the operator's family; (5) nonfarm work, when performed on a farm by someone other than a hired farmworker involved in routine maintenance chores, and jobs performed on a farm by persons employed specifically for such work (e.g., contract construction, well-digging by a drilling company, hauling of agricultural products to market by a commercial trucker, and domestic service in the farmer's home); or (6) custom work such as spraying, dusting, or combining, when performed by a person who is paid a combined rate for the use of his equipment and labor.

Farm wageworkers.—Persons in the population covered by the survey who did farmwork for cash wages at any time during the year for all or only part of a day.

Casual workers.—Persons who did less than 25 days of farm wagework in a year.

Noncasual workers.—Persons who did 25 days or more of farm wagework during the year. Noncasual workers are further classified into *seasonal workers* (25 to 149 days of farm wagework), *regular workers* (150 to 249 days of farm wagework), and *year-round workers* (250 or more days of farm wagework).

Days of farm or nonfarm wagework.—Days on which any farm or nonfarm wagework was reported. The work may have been for all or only part of a day.

Earnings from farm or nonfarm work.—Cash wages or salary received from farm or nonfarm work, for the day and for the year. Estimates of earnings do not include the value of fringe benefits received in connection with the wagework.

Migratory status.—Farm wageworkers are classified as *migratory* during the survey year if they leave their homes temporarily (at least overnight) to do farmwork for cash wages in another county within the same State or in another State. Persons who have no usual place of residence and do farmwork during the year in two or more counties are also classified as migratory farm wageworkers.

Persons who do not cross county lines are classified as *nonmigratory* workers, as are those persons who commute daily from their home across county or State lines to do farmwork in another county but return home each night. Also classified as nonmigratory are persons who did farmwork in their own county for part of a year and then made a

* Because of the increasing complexity of the changes taking place in agriculture, these definitions are subject to revision.

permanent move to another county, even though they may have done farm wagework in the second county.

The Universe, Sampling, and Weighting

The CPS, from which the hired farm working force series is derived, uses a multistage, probability sample design comprising 863 counties and independent cities with coverage in every State and the District of Columbia (13). The sample to be interviewed consists of the usual residents of dwelling units located within the geographic areas chosen for the sample. Since January 1967, some 58,500 dwelling units have been designated for the sample each month. Of these, about 50,000 are occupied by households eligible for interview. The remaining units are not included in the interview program because they are vacant or otherwise not to be enumerated.

The overall sampling ratio used at the present time represents one household in the sample for each 1,170 households in the population. A household generally consists of all persons living together in a dwelling unit.

The estimating procedure used in the CPS involves the inflation of weighted sample results to independent estimates of the civilian noninstitutional population of the United States by basic characteristics of age, color, and sex. The independent estimates are based on statistics from the 1960 Census of Population, including births and deaths, immigration and emigration, and excluding inmates of civilian institutions* and the Armed Forces. This procedure provides substantially better estimates than could be produced by assigning the fixed weight derived from the sample ratio to the sample data for each person.

Generally, all of the processing of the data on the hired farm working force contained in the original questionnaire, including editing, coding, and preparation of the final estimates, is completed by the Bureau of the Census. Final tabulations are prepared by the Bureau according to specifications drawn by ERS.

Economists and other social scientists of ERS develop the statistical (series) report and one or more analytical reports utilizing data from each survey. The statistical report, *The Hired Farm*

Working Force, contains data on duration of employment at farm and nonfarm wagework and accompanying wages by farmworker characteristics, migratory status, region, and farm-nonfarm residence (3). Other reports present analytical results on particular segments or characteristics of the farm wage force, such as economic and social characteristics, education, and skill levels.

Reliability of Data

Since the estimates are based on sample data, they may differ from the results that would have been obtained from another sample, or from a complete census using the same questionnaires, instructions, and interviewers. The results are also subject to interviewer and respondent error. The CPS, however, incorporates modern sampling theory which provides methods for measuring the range of errors due to sampling where the probability of selection of each member of the population is known. Methods are also available for measuring the effect of response variability (13). A measure of sampling variability indicates the range of difference that may be expected because only a sample of the population is surveyed. A measure of response variability indicates the range of difference that may be expected as a result of compensating types of errors arising from practices of different interviewers and replies of respondents.

Errors from these two sources—sampling and response variability—are estimated jointly from the results of the survey, and the range of error is shown in *The Hired Farm Working Force*. Thus, the user can take this factor into account when he interprets the data.

These computations do not, however, incorporate the effect of response bias, that is, any systematic errors of response such as those that would occur if respondents tended to overstate days worked.

Limitations of Series

There are both statistical and research limitations on the data because of the sample size. Although the survey supplies valuable information on farmworkers for the Nation as a whole, it provides no State breaks and only four regional breaks—Northeast, North Central, South, and West. Neither does it permit adequate detailed analyses of subgroups among small segments of

* Inmates of civilian institutions are persons in group quarters who are under care or custody, e.g., in prisons, reformatories, mental hospitals, homes for the aged, etc.

the farm wage force, such as female heads of households or migrants.

RELATED STATISTICAL SERIES

The Department of Labor issues two statistical series on farm employment: a monthly series on total farm employment (12) derived from the CPS and published by the Bureau of Labor Statistics (BLS), and a monthly series on seasonal farm employment (11) derived from data sent to the Department from affiliated State agencies and published by the U.S. Training and Employment Service (USTES), Manpower Administration, formerly Bureau of Employment Security.

Even though the SRS and BLS farm employment series are both monthly, the two series have different data sources, concepts, and bases for classification of people by their occupational and industrial attachments. These differences include the following:

(1) The data source for the BLS series is the household; it is the farm establishment for the SRS series.

(2) The BLS series includes workers 16 years of age and over, while there are no age limits attached to the SRS series.

(3) The BLS series classifies a worker engaged in farm and nonfarm activities on the basis of the job in which he spent the most hours during the week. Thus, a farmer or farmworker might be classified as a nonfarm worker if he spent more time in a nonfarm occupation. The SRS monthly series, on the other hand, includes all workers who did any work on a farm irrespective of their other activities.

(4) Because the SRS monthly series obtains its information from farm employers, individuals who meet the minimum activity criterion on more than one farm during the survey week may be counted more than once.

(5) The BLS series refers to the week containing the 12th of the month, whereas the SRS monthly series refers to the last full week in the month.

Essentially, the BLS series represents the number of persons who spent a major portion of their time during the survey week at farmwork, excluding persons below 16 years of age, institutional population, and unpaid members of the farm

operator's family who worked less than 15 hours; whereas the SRS series estimates the number of persons performing farmwork during the survey week, excluding only unpaid members of the farm operator's family who worked less than 15 hours.

In 1967, the SRS series annual average was 4,903,000, or 28 percent more than the BLS series annual average of 3,844,000.

Both the ERS annual and the BLS monthly employment series use the Current Population Survey. Conceptually, therefore, these two employment series represent the same universe, the difference being type of worker included and time period to which each series relates. The BLS series is monthly, representing farm operators, unpaid family members, and hired farmworkers 16 years of age and over who performed farmwork during a survey week; while the ERS series represents hired farmworkers 14 years of age and over who performed farmwork for cash wages at any time during the calendar year.

The ERS series is consistently higher by about 1 million workers annually than the BLS series. This is essentially the difference between (1) average employment of those 16 years of age and over as determined by BLS data for monthly surveys, each of which covers a 1-week period related to the longest job held for that week, and (2) the total number of persons 14 years of age and over who did farmwork for cash wages at any time during the year as obtained in the survey of farmworkers for ERS.

The USTES series on seasonal farm employment is based on reports received from each of 261 delineated areas during its agricultural season when 500 or more seasonal hired farmworkers or any foreign workers legally admitted to the United States for farmwork are employed. The ERS annual series is national in scope and includes all persons performing seasonal farmwork for cash wages at any time on any number of farms during the year. USTES reports contain estimates of seasonal hired labor in agriculture, by crop activity and origin of worker, for the 15th of each month. Seasonal workers are defined as those workers hired to work on one farm for less than a continuous 150-day period during a year. Thus, the USTES seasonal employment series and the portion of the ERS annual series for seasonal workers are not completely comparable.

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Senator MONDALE. We stand recessed until tomorrow at 9:30.

(Whereupon, at 12:20 p.m. the hearing recessed to reconvene at 9:30 a.m. April 15, 1970.)



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